RECREATIONAL GEOGRAPHY OF THE USSR

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Institute of Geography
of the USSR Academy of Sciences

RECREATIONAL GEOGRAPHY OF THE USSR

Edited by *V. S. Preobrazhensky*
and *V. M. Krivosheyev*

Progress Publishers
Moscow

Translated from the Russian
Designed by **Alexei Ostromentsky**

Contributors: *L. A. Bagrova, N. V. Bagrov, N. A. Danilova, L. S. Fillippovich, V. N. Kozlov, B. N. Likhanov, V. S. Preobrazhensky, V. A. Shalnev, N. M. Stupina, Y. A. Vedenin, A. Kh. Yerizheva, I. A. Zorin*

ГЕОГРАФИЯ РЕКРЕАЦИОННЫХ СИСТЕМ СССР

На английском языке

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English translation © Progress Publishers 1982

Г $\frac{209\text{-}688}{014(01)\text{-}82}$ 57-82

1905010000

Printed in the Union of Soviet Socialist Republics

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FOREWORD

The higher standards of living and culture of the Soviet people, the growth of their free time and incomes increase the demand and opportunity to spend both short and long vacations away from home.

The necessity to satisfy this demand leads to the development of a specific sector of the national economy—its recreational branch — the function of which is to organise the working people's leisure time. At the present time there are more than 13,000 sanatoria, rest and holiday homes, and tourist institutions which can accommodate approximately 2,000,000 visitors.

The recreational sector is divided into several sub-sectors, each with its own function (medical, health-building, tourism, excursions).

Various sub-sectors make use of common natural resources, have a common social and technological infrastructure and common labour resources. Their relations with other sectors of the economy are similar.

At the same time each sub-sector is a distinct organised whole with its own system of institutions, administrative bodies, planning systems, and material and technical supplies. This has made it urgent to improve the methods of comprehensive development of the USSR's territorial recreational systems.

One of the most important forms of long-term territorial planning and coordination of the utilisation of natural resources is the General Plan for the Development of Recreational Systems, which should provide for:

—a rational utilisation of natural and socio-economic

resources of sub-sectors through functional recreational zoning of the country's territory;

—an expansion of the resource base through priority development of elements of the recreational infrastructure;

—the allocation of land and water resources to meet increasing recreational demands;

—an analysis of the latest trends in the development of recreational activities and a determination of ways of meeting these new requirements;

—a coordination of the occasionally contradictory requirements of individual recreational sub-sectors;

—a more effective use of existing recreational regions and institutions.

The working out of such a General Plan requires an analysis of the already existing recreational systems and of the trends in their development. The results of recreational-geographic studies are also important. The authors of the present work have made an attempt to show the achievements of Soviet recreational geography and to analyse the basic trends in its development.

Part I

THE EMERGENCE AND DEVELOPMENT OF TERRITORIAL RECREATIONAL SYSTEMS

Factors Influencing the Emergence and Development of Recreational Systems

Demand for recreation is generated by a number of social and economic factors. The most important among them is the development of the country's productive forces and the population's higher standards of living and culture.

The development of productive forces provides for an increase in non-working and leisure time for each person and an increase in overall free time. The working week in the USSR is one of the shortest in the world. It is 40 hours for industrial workers and 39.4 hours for all working people (taking into account shortened days for a number of categories of workers). With a five-day work week, there are 133 non-working days each year.

One must also consider the overall free time on a national scale which includes non-working time, vacations and leaves, days off and holidays, the free time of pre-school age children and that of pensioners. Free time is increasing in all of these areas.

The growth of the population's material well-being manifests itself in significant increases in income, leading to more material goods, and consequently, to greater demands. As the people's cultural level rises, so do expectations of the level of comfort in leisure activities. This is accompanied by a tangible increase in the population's mobility and a greater diversification of recreational services. From the total personal consumption fund the population annually spends approximately 25 billion rubles on recreational goods and services.

These processes are mutually interconnected. Shorter working hours due to higher labour productivity bring about corresponding increases in leisure time. At the same time, more advanced production skills and the growing cultural

level of workers lead to higher productivity of labour and to a more rational utilisation of working time. In this connection Marx observed:

"The saving of labour time is tantamount to an increase in free time, i.e. time for the full development of the individual, which itself reacts, in turn, as the greatest productive force on the productive power of labour."[1]

Demand for recreation is generated differently in different places (Fig. 1). This is due primarily to the uneven distribution of the population in the USSR (more than 72 per cent live in the European part of the country) and to its concentration in large and very large cities (in 1976, over 19 per cent of the population lived in cities with over 500,000 inhabitants). Qualitative differences in the structure of the recreational demands of residents of different regions should also be kept in mind. They are explained by differences in regional types of production activity, ecological conditions and national traditions.

The USSR territorial conditions permit the development of all basic functional types of recreational activity (medical treatment, prophylaxis, health-building, sports and educational). Over 4,000 mineral springs as well as more than 700 deposits of curative muds and over 450 climatic regions suitable for medical treatment and rest have been explored and described. The total length of the country's coastline is 47,000 km. Of this total 7,000 km are on warm seas—the Black Sea, the Sea of Azov and the Sea of Japan—and, twice as much if we include the Caspian Sea, the Sea of Aral and Lake Issyk-Kul. The duration of the bathing season varies from one to two months in Siberia's continental regions to six months on the Black Sea Coast of the Caucasus.

The diversity of mountain, plain, desert, taiga and Alpine landscapes favours the development of tourism.

While conditions for the development of recreational activities are generally favourable, there are a number of limiting factors as well. In this regard, climate is especially significant. Long periods of cold and inclement weather are characteristic for a number of regions. On the other hand there are zones where it is uncomfortably hot in summer.

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[1] Karl Marx, *Grundrisse der Kritik der Politischen Ökonomie*, Verlag für fremdsprachige Literatur, Moscau, 1939, S. 599.

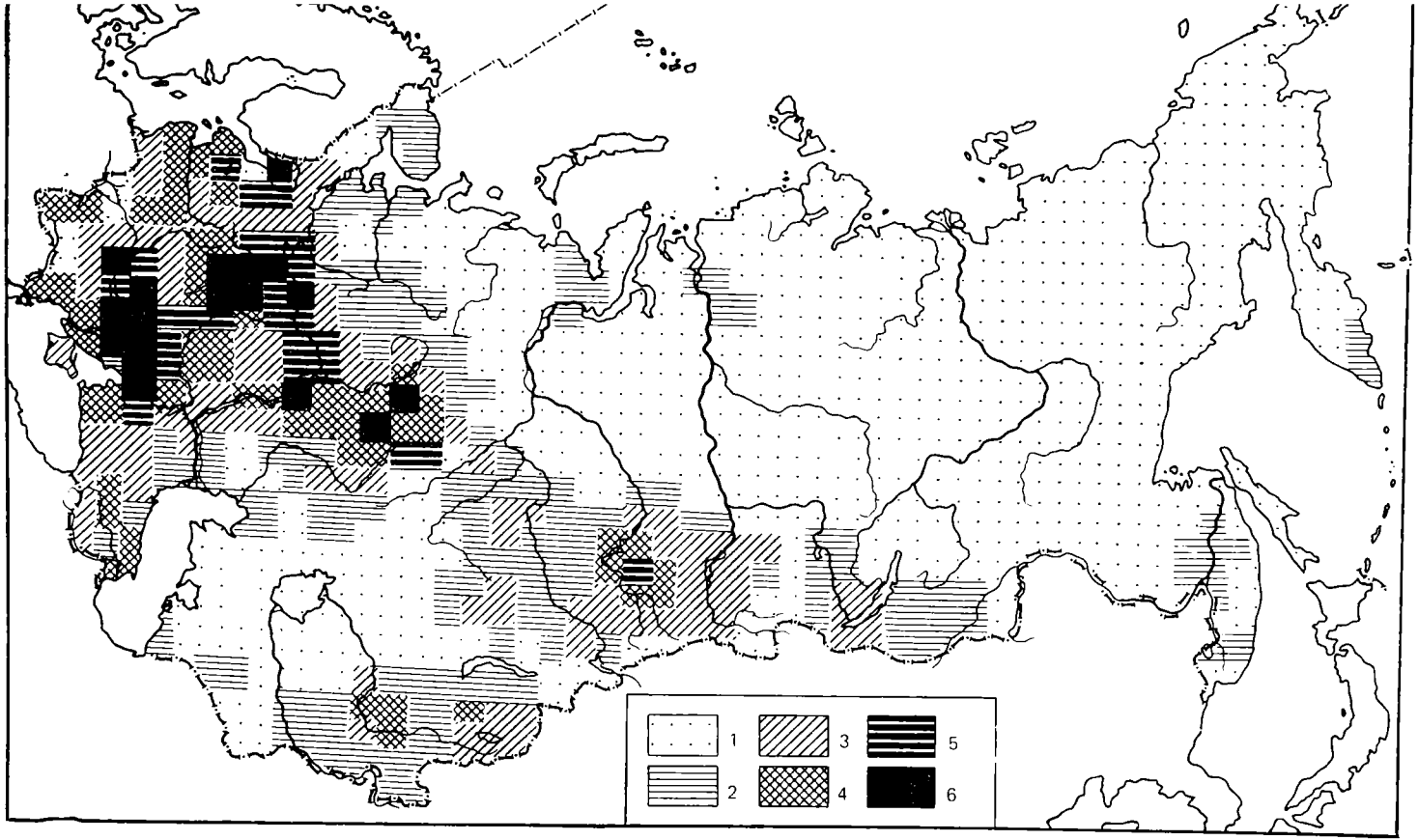

Fig. 1. Potential recreational demand of population of urban agglomerations (compiled by Y. V. Rovinskaya according to I. V. Zorin, 1975). Territories with potential demands: 1—less than 1; 2—1-9; 3—10-49; 4—50-99; 5—100-199; 6—200-1,000.

Extensive zones of ultra-violet deficiency (north of 57°30′ N) exist alongside zones of an excessive exposure to ultra-violet rays (south of 42°20′ N). Almost half of the country is located in a permafrost zone which makes the construction of recreational institutions more expensive. All of the mountains in the south of the USSR that are most interesting from a recreational point of view are located in seismic zones. Snow avalanches, mud flows and stone runs occur in nearly all the mountainous regions. There are vast areas of marsh and desert land in the country. This requires a differentiated approach to the design of recreational complexes and makes it necessary to construct special installations to ensure safety.

Nor should one forget that in many regions of the country, lands suitable for organising recreational activities have long been used for agricultural production or forestry, or are affected by their proximity to industrial enterprises.

In other words, even though territories that could be used for recreational purposes are plentiful, they are extremely unevenly distributed throughout the country, leading to a situation where in a number of regions there is a shortage of land suitable for leisure use, particularly for short vacations. This makes it necessary to allocate additional funds for land improvement and the building of recreational facilities.

Great possibilities exist for developing educational tourism. Numerous cultural and historical monuments are associated with the fascinating history of the multi-national Soviet people. Altogether over 50,000 cultural and historical monuments as well as 6,300 museums are under the protection of the State. Many of the natural, cultural, and historical sites are quite unique and can be used for the organisation of recreational activities. This is made possible by the existence of such decisive factors as State ownership of land and the planned development of the national economy.

Railways, automobiles, and ships play an important role in recreational activities. Highly important, too, is the further expansion of the airlines (we now have supersonic TU-144 planes and IL-86 planes seating 350 persons). Also important for recreational pursuits (especially on week-ends) is the highly-developed system of public transportation and private cars.

The organisation of leisure requires definite material

expenditures on the part of society. The resources necessary for the recreational economy (natural, socio-historical, labour and financial) must be sought out and provisions made for building recreational institutions. Successes in the development of the socialist economy, especially during the last five-year periods, have made it possible to solve these problems in a new way. The scope of work which can be handled by the construction industry has greatly increased and so has the scale and rate of building "summer homes".

The emergence of the recreational economy required the provision of a scientific research base. A system of research institutes is being formed throughout the country for this purpose. The first to be formed were the Institutes of Resort Treatment and Physical Therapy of the Ministry of Health of the USSR as well as those of the Union Republics. Traditionally a large volume of work connected with the territorial organisation of leisure is carried out by the research and design institutes of the State Sub-Committee of Civil Construction and Architecture of the USSR State Committee for Building. The All-Union Scientific Research Laboratory for Tourism and Excursions has been organised by the Central Council for Tourism and Excursions of the All-Union Central Council of Trade Unions. Intourist has a scientific research laboratory of its own.

Recreational research is conducted at institutes of the Academy of Sciences of the USSR and the Academies of Sciences of the Union Republics. The Institute of Geography of the Academy of Sciences of the USSR is engaged in studying the laws governing the territorial organisation of recreation and tourism. Recreational resources are studied at the Academies of the Georgian, Azerbaijan and Armenian SSRs. Research is also conducted by scientists at establishments of higher education.

Stages in the Development of the USSR's Recreational Economy

Before the Great October Socialist Revolution the level of recreational use of the country's territory was quite insignificant. Among the facilities employed for recreational purposes were country-houses with adjoining parks and villas of the bourgeoisie and wealthy civil servants located in the most scenic areas of European Russia, on the Black

and Baltic seashores, as well as in the vicinity of large cities.

In addition, localities rich in mineral springs (the Caucasian Mineral Waters, the Sergievskiye Mineral Waters, etc.) as well as small coastal strips on the Black and Baltic seas were used as health resorts. There was a total of 36 health resorts including approximately 60 sanatoria with accommodations for 3,000 vacationers. Tourism, too, was poorly organised. In 1914, the Russian Society for Tourism had a membership of only 5,000 persons. It should be stressed that the organisation of leisure had a specific class emphasis: it was oriented primarily towards satisfying the needs of the wealthier sections of the population.

Following the establishment of Soviet power, a concern for the leisure of the working people became one of the most important social problems of the government. On March 20, 1919, Lenin signed a decree "On Health Resorts of National Importance". A decree "On Utilising the Crimea as an All-Russia Proletarian Health Resort" as well as a decision to set up health-resort administrations under the People's Commissariat for Health were adopted in 1921. In May 1921, Lenin signed a decree "Concerning Rest Homes".

The first Soviet tourist organisation—the Bureau of School Excursions of the People's Commissariat for Education—was formed in 1918, and shortly afterward the first Young Pioneer camps appeared. It is only natural that during the first decades of Soviet power, when material possibilities were very limited, great attention was devoted to the creation of sanatoria and the development of institutions to foster good health among children—Young Pioneer camps, summer houses for crèches, etc.

Large country-estates, villas and monasteries as well as the few private sanatoria, boarding houses and hotels were converted into public sanatoria and rest homes.

From 1929 to the beginning of 1941, construction of new recreational institutions was undertaken on a large scale. Work was begun on a fundamental reconstruction and expansion of the main health resorts of the country, including projects for the development of the Crimea's Southern Coast and of Sochi.

The war (1941-1945) unleashed by Hitler against the USSR inflicted heavy damages on the recreational economy of the country. It required vast effort and means to re-establish

the resort zones in the regions that suffered under the temporary occupation by the nazi invaders.

The post-war period of the development of the recreational economy was characterised by a rapid growth in the number of rest homes and sanatoria and of their accommodation capacity, the expansion of the distribution of recreational institutions (a great deal has been done for the development of a network of sanatoria in Siberia and the Soviet Far East), the appearance of various types of services, including recreation centres and gardening societies, as well as by the intensive growth of tourism.

The Communist Party of the Soviet Union and the Soviet Government accord constant attention to the development of the recreational economy. Thus, in 1969, the CC CPSU, the Council of Ministers of the USSR and the All-Union Central Council of Trade Unions adopted a decision "Concerning Measures for the Further Development of Tourism and Excursions". A decision of the Council of Ministers of the USSR entitled "Concerning Measures for Improving the Development of Health Resorts and Holiday Regions and the Construction of Sanatoria and Rest Homes" appeared in 1970.

The decisions of the 25th and 26th congresses of the CPSU emphasised the need for better organisation of active leisure pursuits of the working people with a view to improving the health of the population and making more effective utilisation of leisure time. Provisions were made for extending the network of sanatoria, rest and holiday homes, and preventive treatment institutions, as well as for building hotels in cities, particularly at tourist and resort centres and in zones of mass leisure activities. The development of tourism and excursion services, the construction of tourist complexes and hostels, motels and camping grounds and an expansion in the production of sport and tourist equipment were also envisaged.

It is possible to trace the dynamics of the development of the recreational economy using data concerning the number and capacity of the basic types of recreational institutions (Table 1). This data is evidence of the expansion of the possibilities for the development of preventive treatment institutions, of an increase in their capacity and the changes in their general structure (the extremely rapid growth of tourism and the appearance of new forms of services such as recreation centres and outpatient clinics at health resorts).

Table 1

Growth in the Number and Capacity of Recreational Institutions

Recreational institutions	Years									
	1913[1]	1939[2]	1945	1950	1955	1960	1965	1970	1975	1980
1	2	3	4	5	6	7	8	9	10	11
Number of sanatoria (operating year round) and holiday homes with medical treatment	60	1,838	1,107	2,070	2,178	2,106	2,230	2,318	2,350	2,333
Capacity (thous.)	nearly 3	240	119	255	284	325	409	461	504	551
Number of persons accommodated (thous.)	—	—	—	1,654	—	2,263	2,979	3,612	4,391	5,158
Number of rest and holiday homes (excluding those for one or two-day stays)	...	1,270	516	891	938	887	889	1,073	1,124	1,204
Capacity (thous.)	—	195	46	128	160	179	229	287	339	380
Number of persons accommodated (thous.)	—	—	—	1,824	—	3,103	3,988	4,542	5,116	5,331
Number of persons (with reservations) served by the resort outpatient clinics (thous.)	—	—	—	69	—	392	625	788	965	1,064
Number of recreation centres	—	—	—	—	—	—	3,113	3,345	5,079	6,065
Capacity (thous.)	—	—	—	—	—	—	225	288	489	634
Number of persons accommodated (thous.)	—	—	—	—	—	—	1,109	1,657	2,584	3,108
Number of tourist hostels	—	—	—	67	—	—	450	592	943	963
Capacity (thous.)	—	—	—	7.5	—	—	95.2	157.4	300	361
Number of persons accommodated (thous.)	—	—	—	40	—	—	1,997	5,041	16,604	22,503

1 Private institutions.
2 In contemporary boundaries.

Recreational Resources and Conditions of Recreational Activity

Each recreational activity and each of its cycles require definite (comfortable) environmental conditions (natural factors).

If these factors are confined to a definite territory at a definite time they are sufficient for evaluating the potential of this territory as vacation site. The first requirement for organising mass leisure activities is finding a fairly large territory (able to accommodate a specified number of vacationers), suitable for building permanent recreational facilities. This means that it should possess comfortable conditions and requisite resources (such as curative muds or mineral springs), which can be used for a fairly long, or at least a specified time.

It is precisely for this reason that the description of natural recreational resources should include information concerning natural conditions, the area (or volume) of their distribution and the length of time these conditions will be available.

When analysing the concept "socio-historical recreational resources", it is first of all necessary to mention a group of cultural and historical sites including cultural, architectural and historical monuments. They may be viewed as recreational resources only if they satisfy the recreational demands of a large number of people over a specified period of time.

Besides, some socio-economic factors emerge either as conditions or as resources. Thus, the population o a resort locality emerges as a condition of recreational activity, while the part of it that can be employed at holiday facilities, emerges as labour resource of this economic unit.

Recreational assets should also be considered as recreational resources. For example, the part of the beaches that could be used as recreational grounds represent recreational resources—irrespective of whether they are used or not. After money has been invested in the laying out of a beach, it becomes part of the basic fund (considering the expenditure of labour). This is also the case when forests are turned into forest-parks to be used for recreational purposes.

The process transforming natural resources into recreational resources (basic funds) may proceed in several stages: the sections of the beach that have the best properties

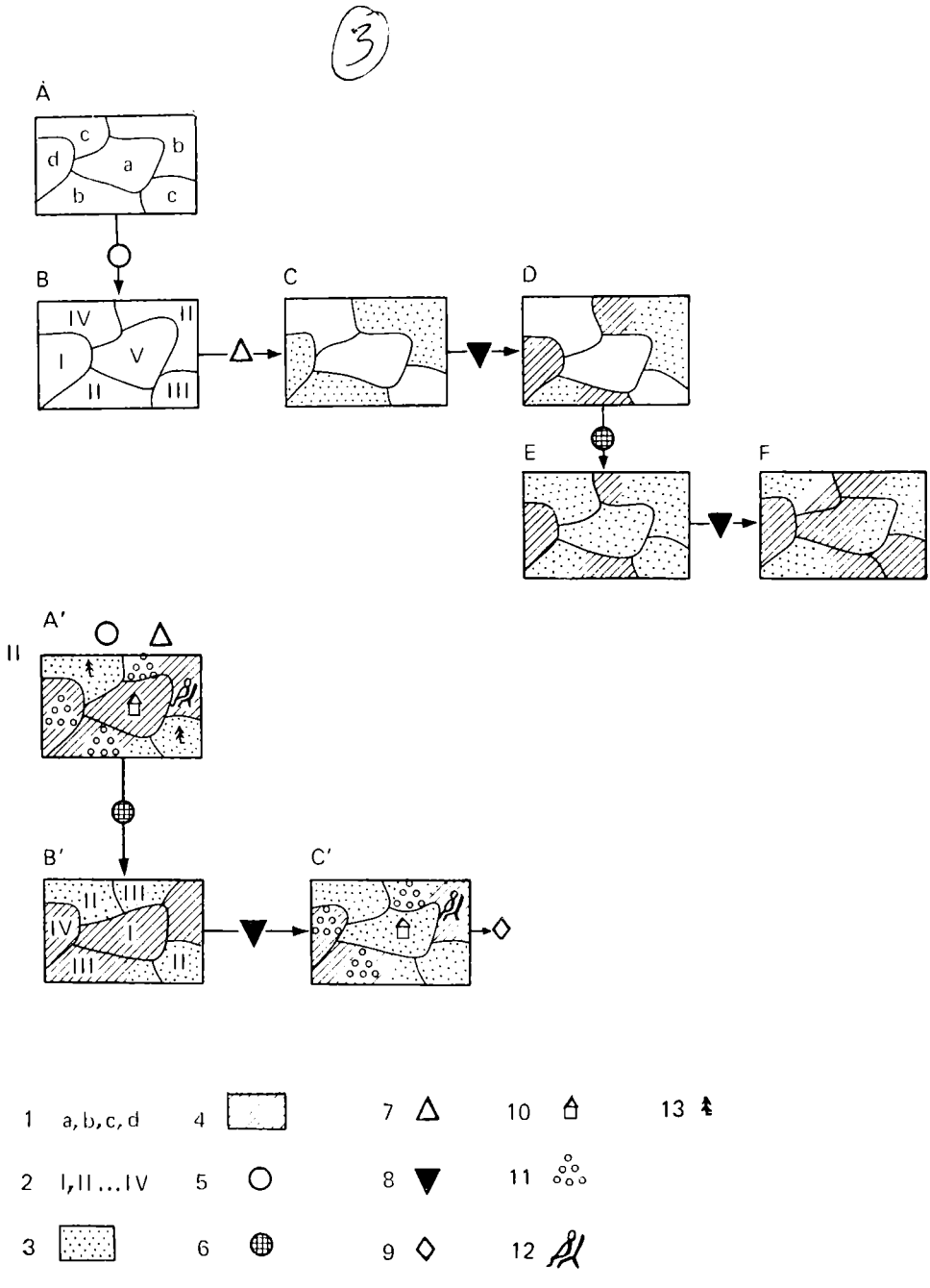

Fig. 2. Transformation of natural resources (NR) and agricultural lands (AL) into recreational resources (RR) (compiled by V. S. Preobrazhensky).

I. Stages in transformation of NR into RR: A—natural resources do not become recreational resources because of absence of recreational demand (landscape map); B—emergence of recreational demand necessitates functional evaluation of natural resources (a map of recreational

are the first to be converted into basic funds, followed by satisfactory sections, and finally by the worst ones. This is an evolutionary type of development (Fig. 2, I). A different type of development is also possible (Fig. 2, II).

The rising demand for suitable recreational grounds causes territories with low recreational ratings to be used in spite of the substantial capital investments necessary to develop them. For example, in mountainous regions with rigorous geological conditions it is necessary to improve natural beaches or provide man-made beaches. This entails transition to an intensive type of development, and the provision of "additional" recreational resources.

It follows from what has been said above that there are three groups of recreational resources: A—intensively used resources ready for development due to available recreational assets; B—extensively used, and C—not used.

With the appearance of new requirements in society, recreational demand for territorial alterations promotes leading recreational branches which receive priority in the "selection" of territorial resources. This may also occur when

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evaluation of NR); C—existing volume of recreational demand leads to the most valuable natural resources (IV and V evaluation ranks) becoming part of recreational resources (a map of recreational resources); D—after money investments part of resources is converted into recreational assets (a map of resources and recreational assets); E—growth in volume of recreational demand determines necessity to transfer the natural resources, which cannot be used without land improvements and consequently without additional material expenditures into the category of recreational resources; F—after money investments part of low-quality resources is converted into recreational assets.

II. Stages in transformation of AL into RR: A′—use of lands is stabilised (a map of land use or functional anthropogenic modifications of NR); B′—substantial growth of recreational demand necessitates re-examination of use of lands and a functional (recreational) evaluation of anthropogenic modifications of natural resources; C′—after considering possibility of money investments part of agricultural lands is transferred into the category of recreational resources.

1—types of natural resources; 2—evaluation ranks; 3—recreational resources; 4—recreational assets; 5—the calculation of the initial recreational demand; 6—ditto, of augmented recreational demand; 7—ditto, of available funds for development of resources; 8—ditto, of need to invest or the investment of funds; 9—making a decision concerning redistribution of land resources or forms of their joint utilisation; 10—lands suitable for settlement: 11—ditto, agricultural; 12—ditto, recreational; 13—ditto, forests.

territories suitable for recreation are occupied by other facilities, for example, agricultural production. Their use for recreational purposes means that for a certain period of time such agricultural assets as vineyards become recreational resources but after additional investments are made they come under the head of recreational assets.

Proceeding from what has been said above, the technico-economic concept "recreational resources" may be defined as follows: recreational resources are natural, technological and socio-economic elements that can be used for the organisation of the recreational economy under existing technical and material conditions.

It should be emphasised that the volume of the concept "resources" is not the same when applied to an individual recreational institution, a sub-sector or to the recreational economy as a whole.

Climatic conditions for leisure are determined by taking into account the summer vacation period of healthy adults not subject to the disadaptational meteo-neurosis (characteristic of many sick, aged or feeble persons). Evaluations are based on the study of the reactions to weather by residents of the Central belt of the Soviet Union, assuming that a person dressed in accordance with the weather on a given day participates in summer recreational activities that physiologists compare to light physical labour.

Physiologists have examined nine types of weather suitable for summer recreational activities and tourism and have subdivided them into five categories: comfortable, hot uncomfortable, hot semi-comfortable, cool partly semi-comfortable, and cold partly uncomfortable, and cold uncomfortable (Table 2).

A comfortable state for the human organism, or physiological optimum, occurs at a skin temperature within the limits of 31° to 33°C corresponding to weather of the N (normal) type. When it is hotter or colder, the skin temperature increases or decreases, while the rate of the thermo-regulator load grows. With a growth of warmth (W) or cold (C) (shown by the numerals 1, 2, 3, 4), the adverse effects of the weather on the organism increase, leading in extreme cases to pathological reactions of varying degrees.

Comfortable weather (maximal favourable conditions) is suitable for all types of summer recreational activities and tourism. Semi-comfortable weather (average favourable con-

Table 2

The Interdependence Between the Surface Temperature of the Human Body, Physiological State and the Type of Weather, a Recreational Evaluation of the Types of Weather

Average skin temperature (°C)	Heat perception	Perspiration emission gr/h	Thermoregulator load	The type of weather (according to Candror and others)	Recreational evaluation of the weather (according to N. A. Danilova)	
> 34.0	very hot	> 750	excessive	4-H	hot uncomfortable	unfavourable period
> 34.0	hot	750-400	large	3-H		
> 34.0	very warm	400-250	moderate	2-W		
34.0-33.0	warm	250-150	weak	1-W	hot semi-comfortable	favourable period
32.9-31.0	comfortable	150-100	minimal	N	comfortable	
30.9-29.0	cool	< 100	weak	1-C*	cool partly semi-comfortable	
					cold partly uncomfortable	
28.9-27.0	cold	< 100	moderate	2-C	cold uncomfortable	unfavourable period
26.9-23.0	very cold	< 100	large	3-C	cold uncomfortable	
< 23	extremely cold	< 100	excessive	4-C		

* *Note*: Part of the weather of the 1C type, higher than a certain thermic level is rated as cool semi-comfortable and that which is lower than this level as cold uncomfortable. This thermic level changes under the influence of the wind factor as well as cloudiness (or insolation).

ditions) allows these activities with certain limitations or when corrective devices are provided.

Uncomfortable weather rules out all types of summer recreational activity. Comfortable and semi-comfortable weather is favourable for recreation and tourism in summer time.

In studying the climatic conditions suitable for recreation it is also necessary to take into account the influence of various meteorological and atmospheric phenomena. This is especially important for identifying uncomfortable weather. In addition to very hot and very cold days, this includes days with a wind factor of over 6 m per second (at a height of 2 m), prolonged fog, precipitation of approximately 3 mm, and thunderstorms if these phenomena occur in the daytime. Such types of weather are either physiologically harmful to the organism or prevent the majority of recreational activities (with the exception of going for walks, which are possible in the intervals between the action of meteorological phenomena listed above or in places protected from strong winds, and such activities as visiting museums, exhibitions, etc.). Stormy weather (gales, thunderstorms and hurricanes) excludes all recreational activity.

The study of daily 13-hour meteorological data over a number of years has made it possible to compile a map showing the number of days with favourable conditions, that is, to produce a description of climatic resources (Fig. 3). However, it should be kept in mind that even in the months most favourable for summer recreation days with comfortable weather alternate with semi-comfortable and uncomfortable days. Moreover, the map shows the man-year average number of days with favourable weather, which is often quite different from the annual number of such days. It is well known that in the latitudes in which the USSR is located, the variability of the weather from year to year, which depends on the circulatory conditions of certain years substantially affects the character of separate days, months and seasons.

Great difficulties arise in developing the recreational economy in the regions of the Far North, especially in the Asiatic part of the Soviet Union, as well as in the Far-Eastern regions lying close to the shores of the Pacific Ocean (with a comfortable period of fewer than 15 days).

The most favourable climatic conditions are characteristic of the Black Sea coast, the south-east of the Caspian region

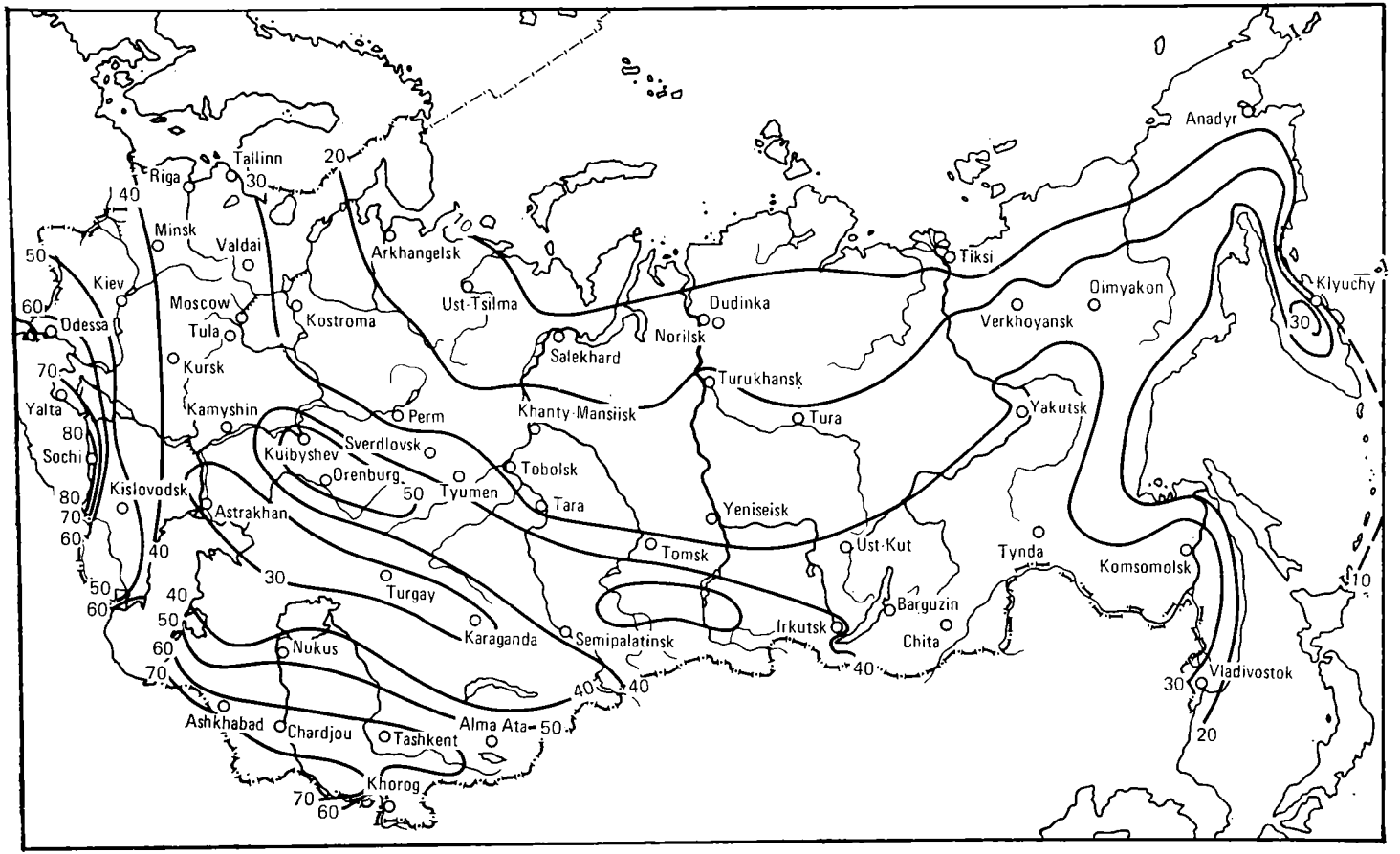

Fig. 3. Climatic conditions for organising recreational activities (compiled by N. A. Danilova). Number of days suitable for summer vacations and tourism during the year.

(dry subtropics) as well as of the south of Central Asia (from 70 to 80 days of comfortable weather). Among the regions of the Central zone, mention should be made of the Middle Volga and the Southern Urals (with 50 or more comfortable days). In the northern foothills of the Altai and Sayan mountains there are more sunny days and less precipitation as compared with the continental and coastal regions. In the parts of Yakutia lying in the middle reaches of the Lena River and the lower reaches of the Aldan River, the period of comfortable weather is fairly long; hot and sunny summers, which occur quite often in Yakutia are much more favourable for summer leisure activities than in the regions of the Soviet Far East and Siberia located in the same latitudes.

In the northern regions only the middle of the summer is suitable for leisure activities. In the Central zone the comfortable period is longer, lasting from spring through to autumn, and in its southern part, it includes the winter months as well.

On the other hand, in the Caspian region, in the Northern Caucasus, on the Black Sea coast, and especially in Central Asia, the number of comfortable days decreases in summer. It often happens that in July and August the weather becomes uncomfortable due to excessive heat and humidity (in the humid subtropics). In the mountains, especially those of middle height in the southern part of the country, there are more comfortable days in summer and fewer in spring and autumn than on the plains in the same latitudes. For this reason, the "comfort curve" possesses two seasonal peaks (spring and autumn).

Hot weather, unfavourable for people, causes strong and mild discomfort. Strong discomfort qualifies weather of the 2-W, 3-H and 4-H types, which is practically unbearable and may impair the health. Weather that is not so hot (the 1-W type) belongs to mild discomfort type. On a greater part of the country's territory, the number of days with strong discomfort does not exceed two weeks a year. In the south of the European part of the USSR as well as south of 50°N in the Asian part, there are more than 15 such days. In the south of Kazakhstan and in the Republics of Central Asia, both in the plains and in the mountain foothills, the number of days with strong discomfort increases sharply reaching from 4 to 4.5 months.

Conditions suitable for bathing are examined with respect to the country's major seas, lakes and rivers.

Physiologists consider that a healthy person can bathe when the water temperature is not lower than +17°C. Only robust and trained persons can bathe in colder water (the temperature gradations for sick persons and children are not specified).

Soviet specialists have accepted the following classification for bathing according to its thermal effect on the body: 1) 14°-16°C (cold water—strong, stimulating); 2) 17°-19°C (cool water—toning up, invigorating); 3) 20°-24°C (warmish water); 25°-27°C (warm water) and 27°C (very warm water)—neutral. By its effect on the physical condition, bathing is divided into hydrostatic (with the sea registering 0-1 point), moderately dynamic (2-3 points) and dynamic (3 points). The latter has the strongest effect. Bathing in rough sea (3 points and over) is not recommended for vacationers and tourists unless they are trained athletes.

The average length of the bathing season was determined by water temperature based on data over a number of years for the period from May to September, and is shown on the map (Fig. 4).

It should be noted that the bathing season in mountainous regions (even in the south) is considerably shorter than in the plains at the same latitudes (depending on the altitude of water reservoirs above sea level, local climatic conditions and the proximity of glaciers that feed these reservoirs).

A classification of the landscape provinces suitable for the principal types and sub-types of summer and winter cycles of recreation was made on the basis of schematic diagrams of landscape zoning, with particular attention paid to their suitability for organising large recreation zones and regions. Evaluations were made according to a five-point scale (1 being the lowest and 5 the highest).

An analysis of the schematic diagrams for the organisation of summer and winter cycles of health-building leisure activities shows that the coastlines of the Black Sea, the Sea of Azov, the Baltic Sea and the Gulf of Finland as well as the south-western part of the Caspian Sea and the coastline of the Sea of Japan are most favourable for hiking in summer. The same is true of the Central zone of the European part of the country, the Central Urals, the Western Caucasus and Transcaucasia, the mountainous regions of Central

Asia as well as of the Altai and the Sayan mountains, the Baikal area and part of the Far East of the country.

The Upper and Central Volga and the Ural areas and the Central Urals, several provinces of the Caucasus, the greater part of Central Asia and South Siberia, the Baikal and the

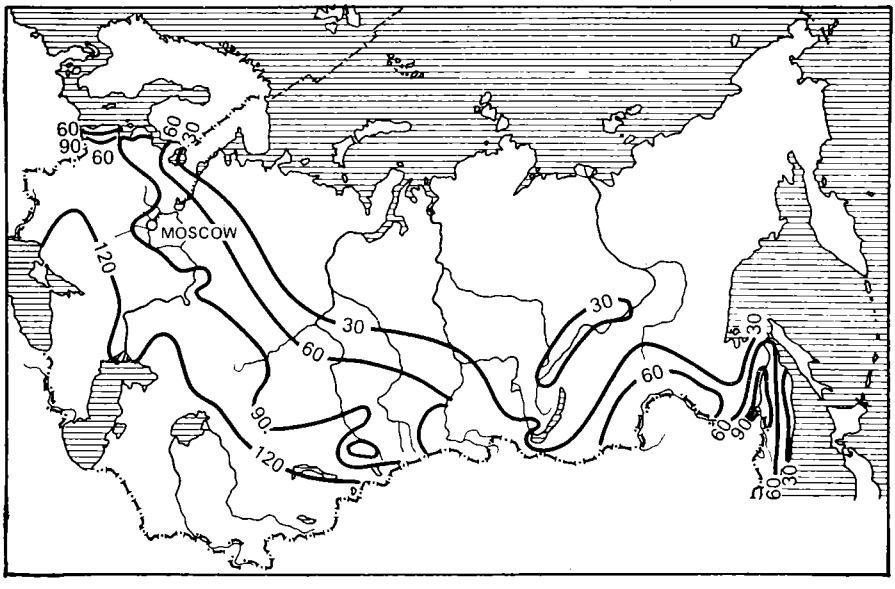

Fig. 4. Repetition of days favourable for bathing over the period from May to September (compiled by R. P. Kornilova).

Trans-Baikal areas, the mountainous regions in the south of Khabarovsk and Primorye territories are the best places for hiking in winter.

The Black Sea Coast, the Sea of Azov and the south-western part of the Caspian Sea, as well as the majority of the landscape provinces of the European part of the country that lie south of the 60th parallel, a number of provinces in Western Siberia and Central Asia south of the 56th parallel, and the south of Primorye Territory provide the best opportunities for swimming and sun-bathing.

Water-based competitions and tourist ventures are organised on lakes, water reservoirs, large rivers, as well as in the gulfs and lagoons of warm seas. These include the Baltic Sea and the Black Sea coasts, several districts of the Ukraine, the Central zone of the European part of the country, the Ural area, the south of Khabarovsk and the Primorye territories. The Western and Central Caucasus, a number of

mountainous regions of Central Asia, the Carpathian Mountains and the Sikhote Alin Range are the best places for downhill skiing and mountain climbing (Fig. 5).

Provinces with monotonous landscapes and no forests, abounding in swamps but having poor river networks, as well as provinces with temperature extremes, excessive humidity and strong winds are the least suitable for leisure activities which promote good health or for sports and tourist ventures.

Medical treatment at health resorts requires the presence of mineral waters and curative muds as well as comfortable climatic conditions. Balneological and mud resources are plentiful (Figs. 6 and 7); more of them have been discovered than have yet been developed.

The Basic Laws Governing the Territorial Organisation of the Recreational Economy of the USSR

The territorial organisation of the recreational economy is characterised by a combination of two tendencies: a relatively uniform distribution of recreational institutions in the proximity of urban agglomerations and their concentration in regions most suitable for recreational use.

The emergence of new and the development of the already existing sub-sectors of the recreational economy stimulate the development of the territorial recreational system of the USSR. The growth in the number of traditional institutions is accompanied by the appearance of entirely new types, so that now there are over 20 types of recreational institutions in the Soviet Union of which quite a few have emerged during recent decades. These are holiday homes with prophylactic and medical-treatment functions, motels and camping grounds, national parks, forest parks and gardening societies, tourist hotels, etc. In the early 1920s there were not more than five types of recreational institutions in Soviet Russia: sanatoria (both TB and general therapeutic), recreation centres, summer houses, Young Pioneer camps and tourist centres, though the latter did not yet have their own material base.

The second process that characterises the formation of the recreational system of the country is the active development of the territory and an extensive distribution of the institutions of various sub-sectors by area.

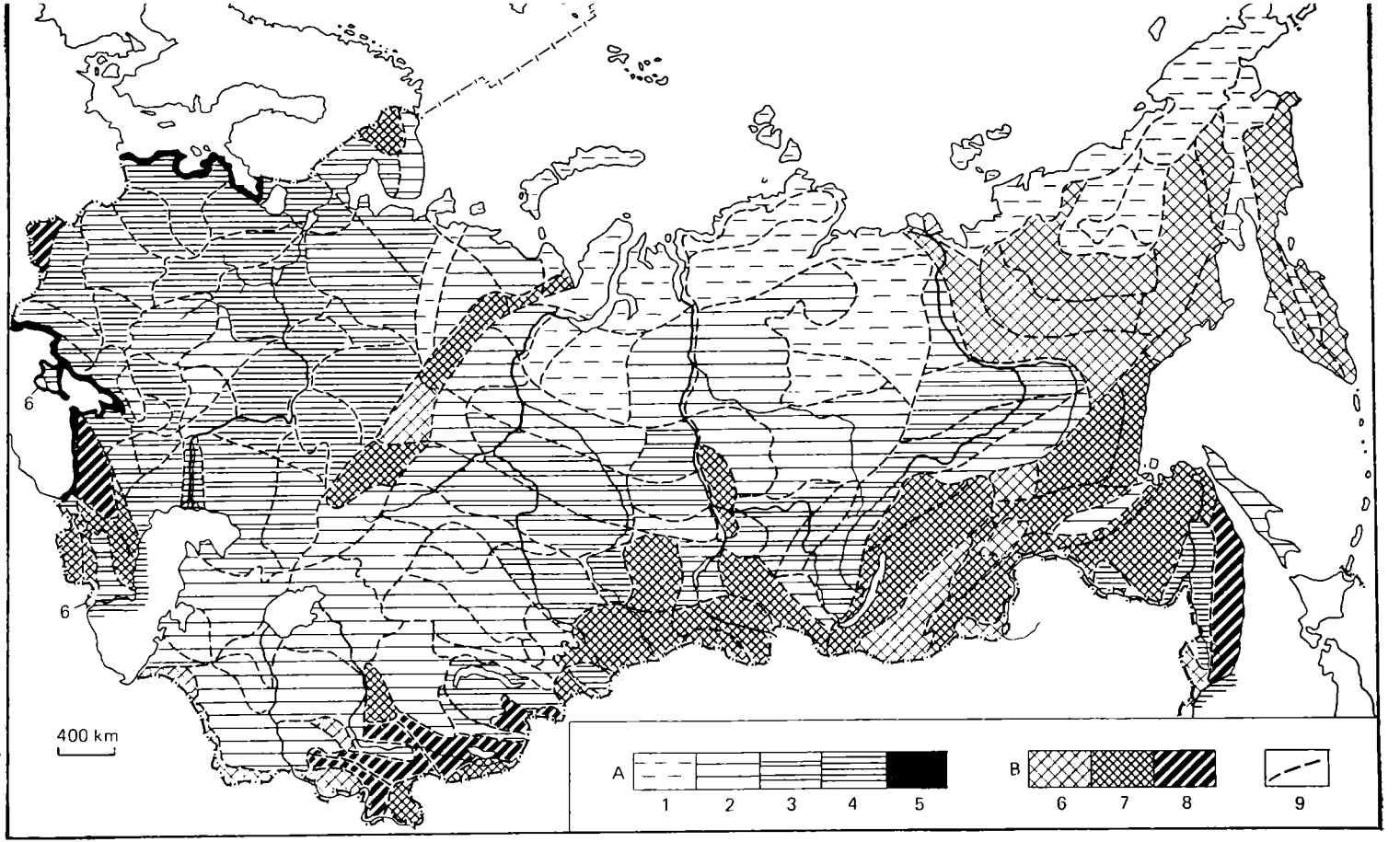

Fig. 5. Types of landscape provinces suitable for sports activities (compiled by N. M. Stupina). Ranking scale (points): A—flat country and water sub-type: 1—one; 2—two; 3—three; 4—four; 5—five; B—mountain sub-type: 6—one; 7—three; 8—five; 9—the boundaries of landscape provinces

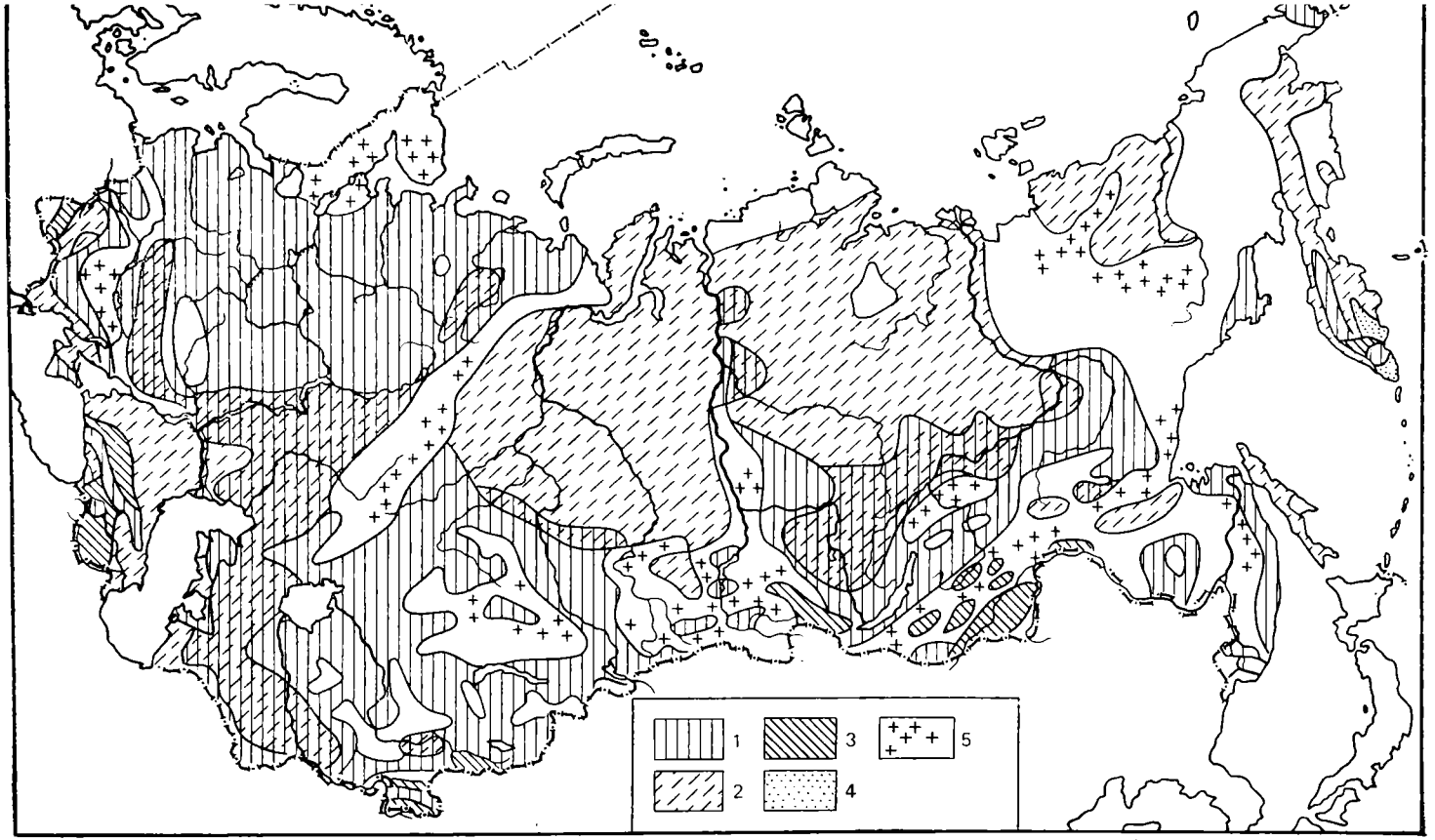

Fig. 6. Schematic diagram of distribution of mineral waters (compiled by N. M. Stupina on the basis of the Map of mineral waters of the USSR, 1968, edited by V. V. Ivanov).
1—nitric; 2—methane and nitric-methane; 3—carbonated; 4—hydrogen sulphide-carbonated; 5—radon.

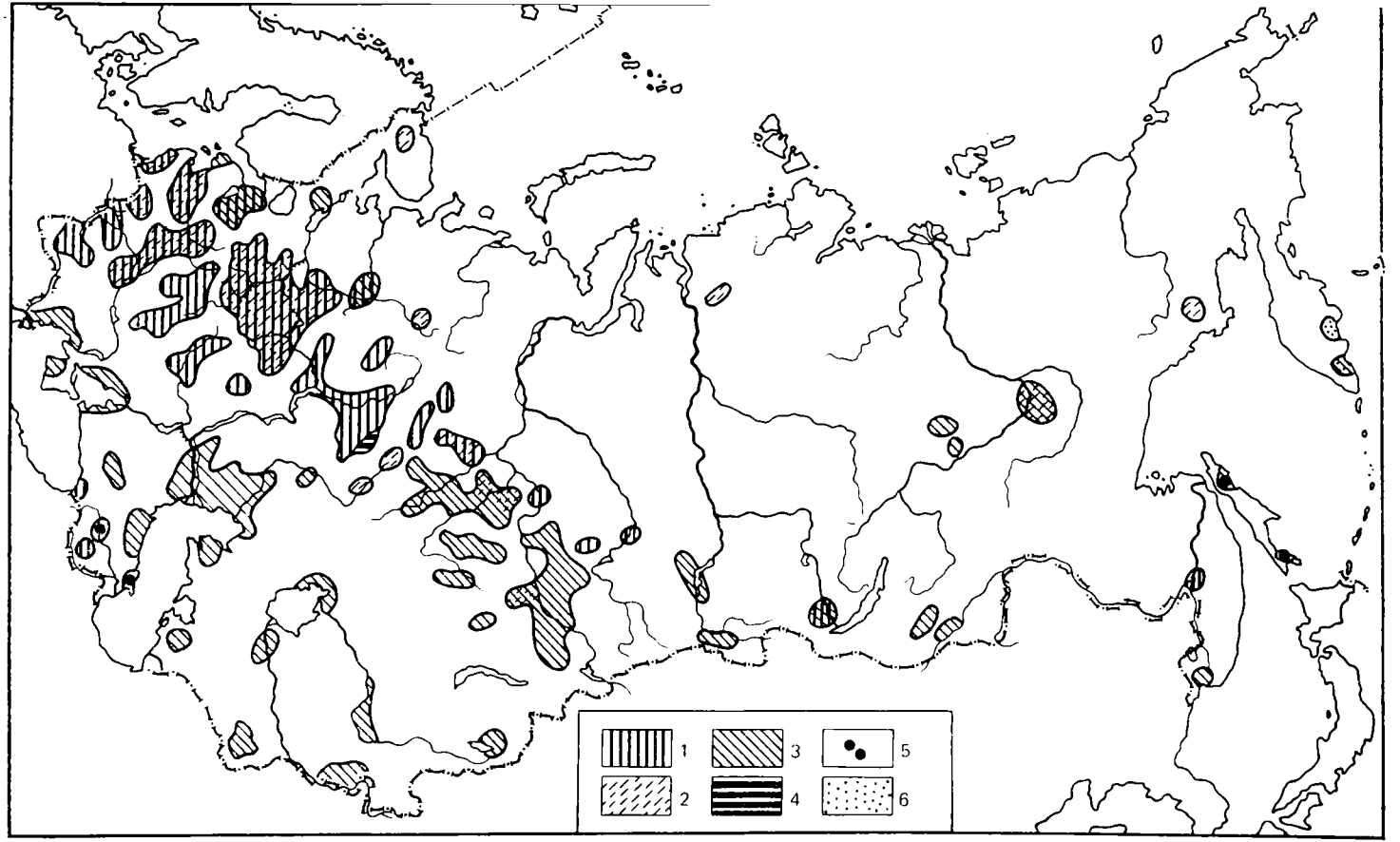

Fig. 7. Schematic diagram of distribution of basic types of curative muds (compiled by N. M. Stupina on the basis of the Map of curative muds of the USSR, 1968, edited by V. V. Ivanov, G. A. Nevraev, and M. M. Fomichev).

1—peat; 2—sapropel; 3—sulphide silt; 4—fresh water and clay; 5—volcanic; 6—hydrothermal.

Territorial development is stimulated by the need to expand the macro-area that has already emerged and form new foci within its bounds as well as by the need to develop sub-sectors of a principally new type, which leads to the emergence of a new area. At various stages in the development of the country each sub-sector formed in its own way. Thus the area of distribution of sanatoria formerly limited to the Crimea, the Caucasus and the west of the European part of the USSR, has encompassed practically the entire territory of the country in the years of Soviet power—from the western to the eastern boundaries, and from Norilsk and Murmansk in the north to Central Asia in the south. There is now not a single region that does not have sanatoria and rest homes. However, the process of development has not ceased. The distribution of tourist itineraries and tourist hostels by area is also expanding.

The macro-areas of such new sub-sectors as gardening societies, trips by rail and recreation centres that were formed in the post-war years, keep growing and developing; for example, the radius and density of the distribution of gardening societies as well as the amount of land allocated to them near cities are increasing.

All these processes are controllable under socialism. The priority task is to improve the conditions of recreational services in the rapidly developing regions of the eastern part of the country.

The formation of recreational regions has been accompanied by processes of territorial concentration of recreational institutions with various functional orientations. As a result, the general recreational development of the country's territory is characterised by a more or less distinctly expressed localisation of separate functions. It is possible to identify such "resort regions" as the Crimea, the Black Sea Coast of the Caucasus, and the Baltic Sea coast; the tourist regions include the Caucasian Mountains, the Altais and the Carpathians; among the "excursion centres" are the Hero Cities of World War II, the capitals of the Union Republics, the towns of Suzdal and Kizhi and resort cities; mention should also be made of suburban recreational zones.

There are several manifestations of the concentration process: 1) the formation of clusters of recreational institutions; 2) the creation in these clusters of a common recreational infrastructure (outpatient clinics at health resorts,

public parks, public lifts and cable roads, etc.), often leading to an emergence of recreational settlements. Sometimes, on the contrary, new recreational institutions are built in the existing settlements or towns; 3) the formation of a group or system of settlements or towns connected with each other and united into a recreational agglomeration.

To illustrate the second level of concentration it is worthwhile mentioning the tourist village of Dombai, the excursion-tourist town of Suzdal, the health-resort complex in Pitsunda as well as towns specialising in medical treatment and prophylaxis such as Palanga, Druskininkai, Skadovsk and Gelenjik.

Concentration, as a rule, is accompanied by an improvement in the recreational services and the conditions provided for medical treatment. An example of this is the resort-city of Kislovodsk with its variety of medical institutions, and a large number of medical consultants, Narzan mineral springs, a reliable laboratory-diagnostic centre, a large public park with a network of promenades and paths for regulated curative walking, a philharmonic, several movie theatres and an excursion bureau that offers a large choice of excursions.

Such facilities create conditions that cannot be provided by individual sanatoria, allowing a combination of medical treatment and leisure pursuits ensure a higher curative effect. In addition, such concentration adds to economy of labour resources and a more effective use of services (foodstores, automobile depots and retail trade network).

Recreational agglomerations provide even broader opportunities for organising leisure time and medical treatment. They have emerged in places that possess particularly valuable balneological and climatic resources, for example, Greater Sochi and Greater Yalta on the Black Sea coast, the Caucasian Mineral Waters, and Jurmala on the Baltic.

Leningrad with its galaxy of city-museums — Pavlovsk, Pushkin, Petrodvorets, Lomonosov and a great number of other interesting sites (the station of Razliv, where Lenin lived, or Repino with the house-museum of Repin, the famous Russian painter)—can be counted among the formations specialising in excursion and tourist services.

Concentration processes occur on a lower taxonomic level as well. They result in a consistent increase of the average capacity of recreational institutions and creation of in-

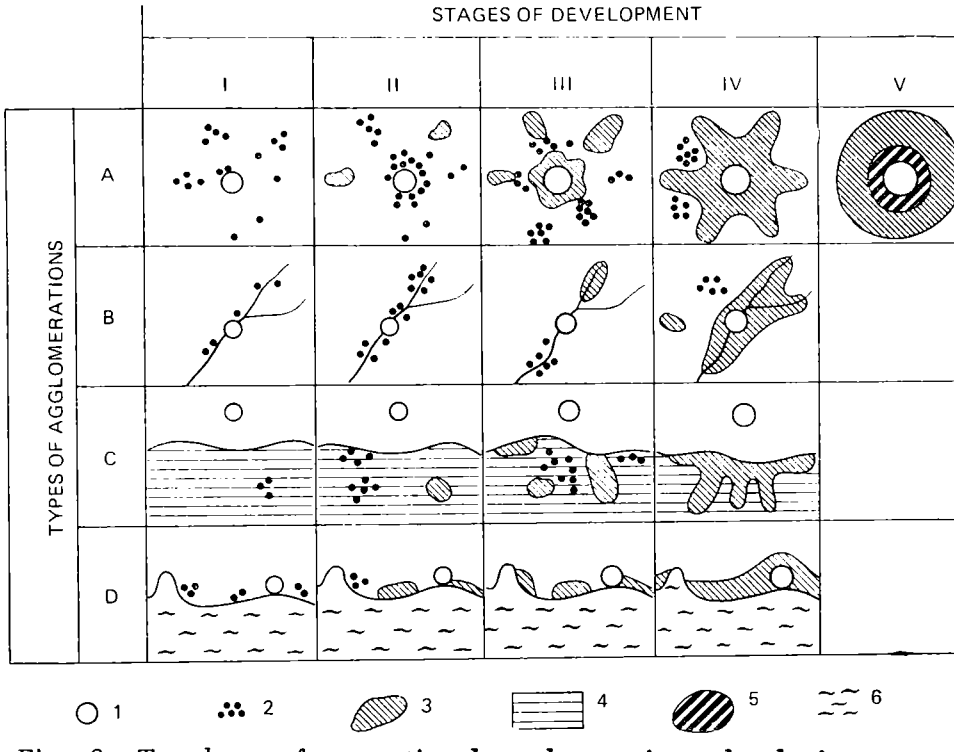

Fig. 8. Typology of recreational agglomerations developing near cities (compiled by V. S. Preobrazhensky and L. S. Filippovich). Types of agglomerations: A—regular monocentric; B-D—deformed monocentric; B—on rivers; C—in foothills; D—on seacoast; 1—city as demand generating centre; 2—fragmentary development; 3—dense areal distribution of recreational institutions; 4—mountains; 5—the repulsion zone around the city; 6—the sea.

stitutions providing from 500 to 2,000 accommodations, as well as of complexes and settlements accommodating from 3,000 to 8,000 vacationers (Adler, Pitsunda, the Klyazma holiday home not far from Moscow, etc.).

Specific forms of recreational institutions concentrated close to cities include sanatoria and holiday homes for overnight visitors, recreation zones for short vacations, recreation centres of industrial enterprises, and Young Pioneer camps. Sanatoria and holiday homes for overnight visitors close to cities are also developed for persons whose health does not allow to travel to distant places (sick or elderly persons and invalids).

On weekends thousands of people are attracted to the suburban recreation zones which are organised mainly on

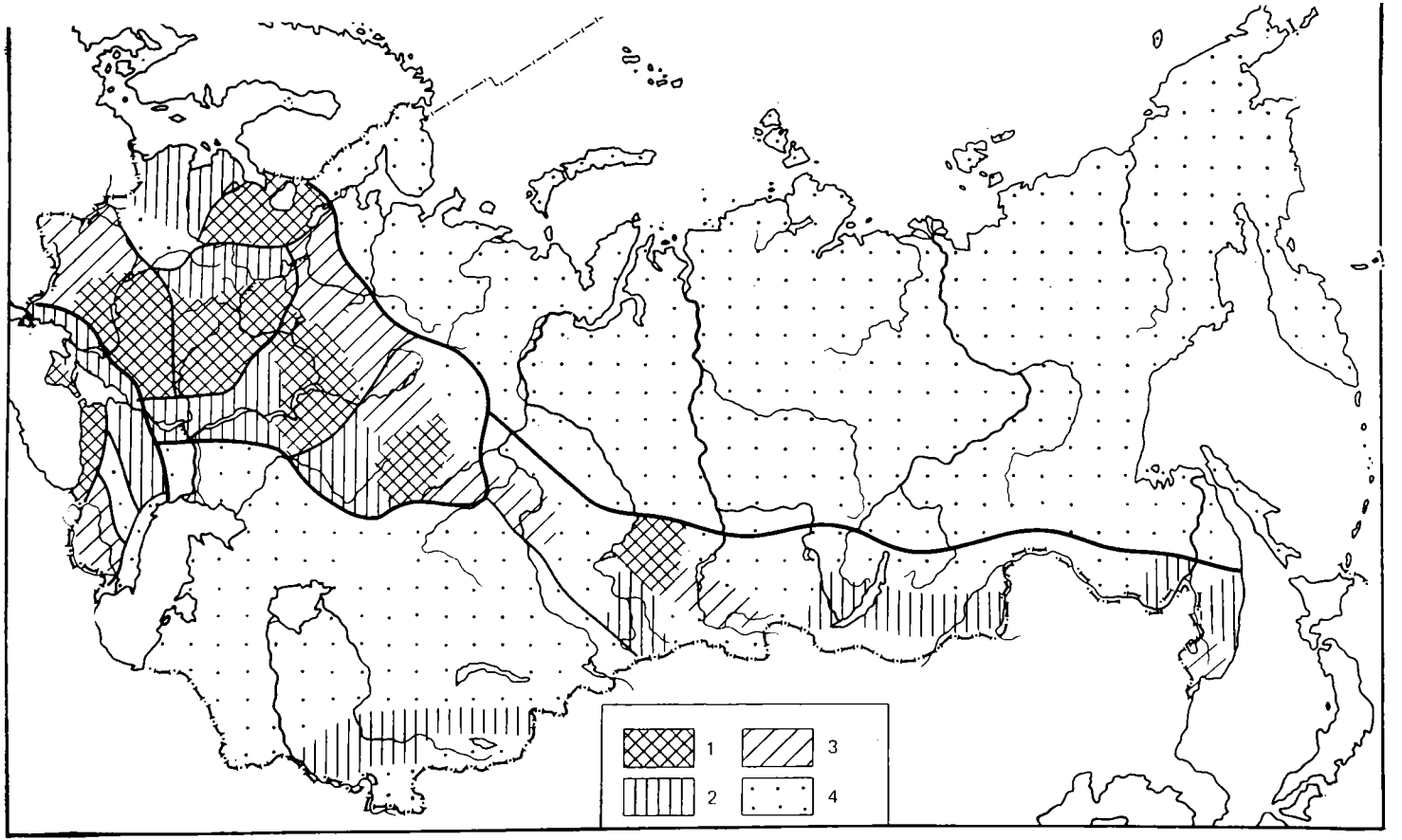

Fig. 9. Distribution of the basic types of suburban agglomerations of recreational institutions (compiled by L. S. Filippovich).

1—strongly agglomerated; 2—weakly agglomerated; 3—fragmentary pre-group distribution; 4—sparse pre-group distribution.

man-made water reservoirs, especially in landscape zones lacking rivers and forests. Large tracts of land are needed, therefore, for this type of recreational activity, because hiking occupies a considerable place among weekend recreational pursuits. Hence, too, the necessity of creating forest parks and forest-park zones.

Sometimes the development of recreational zones around cities is regarded as a phenomenon compensating for and opposing the urbanisation processes. However, the development of such zones is rather a sign of a general process of the territory's urbanisation. Visits to suburban recreational zones become part of the urban way of life and the level of comfort of these zones approaches that of the city. In spite of their juridical and often economic independence, recreational zones gradually become specialised functional parts of the city. "From the facilities for the city, to the facilities of the city"—such is their line of evolution.

The development of sanatoria and holiday homes for overnight visitors close to cities and the organisation of suburban recreational zones are accompanied by processes of territorial concentration which proceed in several stages (Fig. 8 and 9). It is possible to distinguish the stages of pre-group and group distribution. The creation around a city of a specific strongly agglomerated recreational area forms the concluding stage of the process. However, one more stage is observed in the case of very large cities—the formation of the recreational area's internal boundary — the stage of "repulsion" from the boundaries of the city.

Large cities can form regular concentric areas (Fig. 8, line A; A-I Kishinev, A-II Sverdlovsk, A-V Moscow). However, natural conditions often lead to a substantial deformation of the circular structure. The "boundaries of contrasting environments" emerge as the basic deforming factors: river banks (Fig. 8, line B; B-I Krasnoyarsk, B-III Kuibyshev, B-IV Kiev), the boundaries of arid or semi-arid plains and mountains (Fig. 8, line B; B-III Stavropol), the seashores (Fig. 8, line D, D-IV Odessa).

The concentration of recreational institutions and the specialisation of territories lead to the emergence of very stable and well-developed nodal points that in the aggregate form a sort of a territorial framework of institutions of one or another sub-sector of the recreational economy. For example, the resort developments of the Crimea, the Cauca-

sus, the Baltic Sea region and the Baikal area, together with the unique health resorts of the Bairam-Ali and Belokurikha type, are the nodal points of the sanatoria framework.

The framework of educational tourism embraces the capitals of the Union Republics with their abundance of cultural and historical sites, the Hero-Cities of World War II and memorial places associated with the rich history and culture of the Soviet state.

The mountainous regions of the Caucasus, the Urals, the Altai and Central Asia have emerged as the nodal points of the sports and tourism sub-sector.

The examples given above refer to the sub-sectors with specific technological demands on the quality of recreational resources determined by the needs of the entire population of the USSR.

And in case of another group of recreational sub-sectors—chiefly those catering directly to large concentrations of people—its framework largely follows the settlement pattern with its nodal points—the population centres. This group of sub-sectors includes children's suburban recreational institutions (Young Pioneer camps, kindergarten summer houses, and the like), gardening societies, summer villages, most of the recreation zones, and excursion services.

The frameworks of individual sub-sectors combine to form the overall framework of the recreational system of the USSR, where transportation lines are elements that link the nodal points. As a rule the transportation system is part of the country's recreational framework with many transport lines fulfilling the function of a recreational infrastructure for the major part of the year. This may be illustrated by the substantial increase in the number of buses, trains and airplanes bound for health resorts, and by the growing intensity of the suburban railway and bus services. Water-borne passenger traffic is geared primarily to recreation (except for hydrofoils and motor launches servicing comparatively short lines).

Some idea of the concentration and territorial differentiation of the basic types of recreational institutions[1] can be formed on the basis of the map (Fig. 10), which shows the territorial irregularity in their distribution.

[1] Sanatoria, rest homes, holiday homes, recreation centres and tourist institutions.

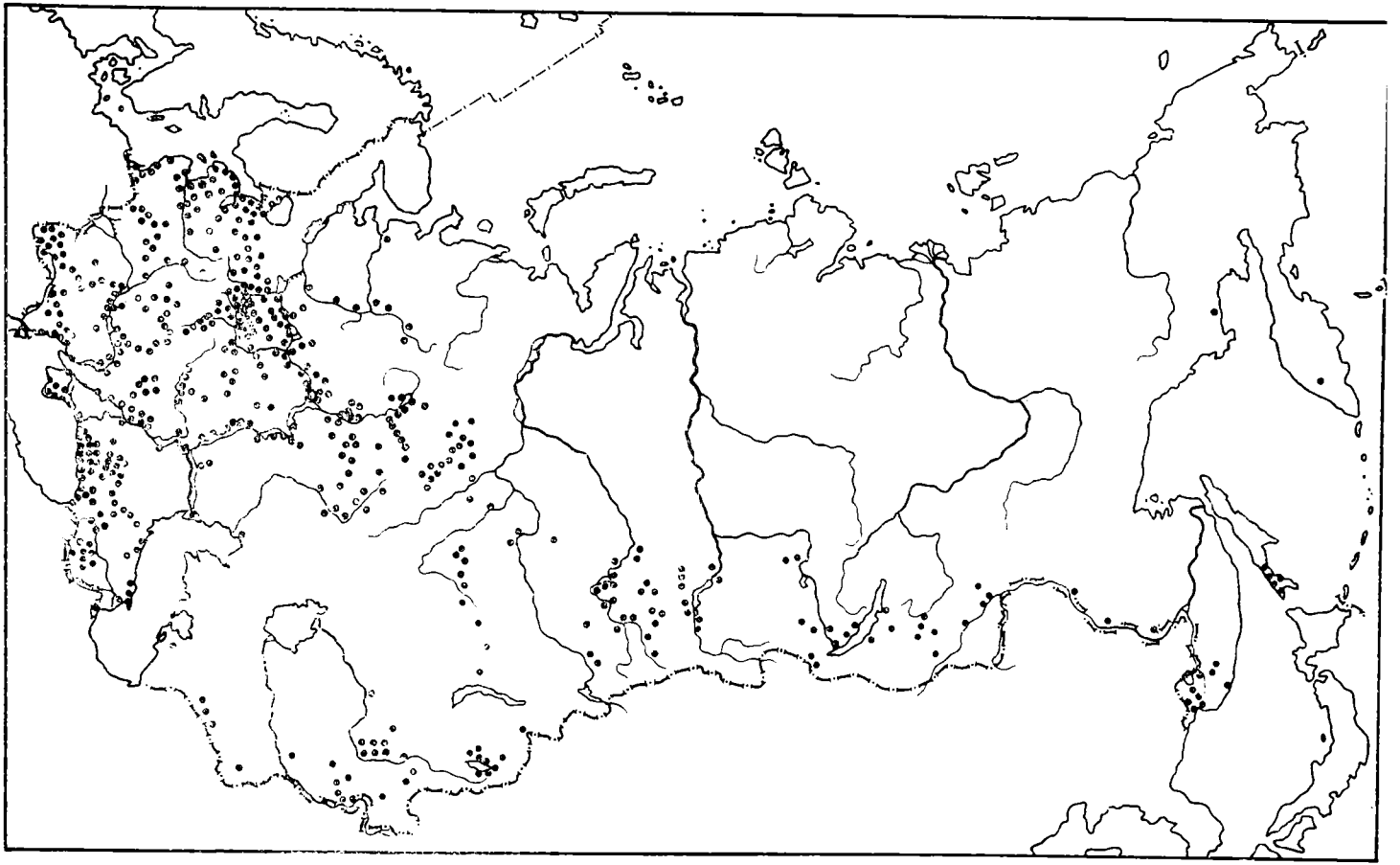

Fig. 10. Distribution of vacationers in basic types of recreational institutions (compiled by L. S. Filippovich and M. P. Chigrinets). Each dot stands for 2,000 vacationers.

The greater part of the medical treatment and recreational institutions are concentrated in the European part of the USSR, in the most densely populated regions, as well as along the coastlines of warm seas and in regions with comfortable natural conditions and curative waters and muds.

Beyond the confines of the European part of the USSR, clusters of recreational institutions gravitate towards large urban agglomerations and regions with particularly favourable natural conditions (the south-eastern part of Western Siberia, the south of Eastern Siberia and the Soviet Far East).

The fact of the uneven distribution and recreational use of the territory is corroborated by the data concerning the density of accommodations in the medical-treatment and recreational institutions, calculated per 1,000 of the resident population (Fig. 11). The greatest density is observed in the Crimea and on the Black Sea Coast of the Caucasus famous for their favourable natural conditions and developed recreational infrastructure. A relatively high density (8-32 accommodations per 1,000 population) is characteristic for Leningrad, Chelyabinsk and Kuibyshev regions, the Tatar ASSR, the Baltic area, Kirghizia and Stavropol Territory, i.e., for regions with large industrial agglomerations and natural conditions favourable for medical treatment and recreation. The lowest density is typical for the north of the European part of the country, Western and Eastern Siberia, the desert regions of Central Asia and Kazakhstan with the least favourable and unfavourable natural conditions as well as for the agriculturally-developed districts of the Ukraine, Byelorussia and the south-west of the Centre of the European part of the country.

The basic characteristics of the territorial differentiation of recreational institutions are determined not only by natural factors but also by socio-historical factors: for example, as a result of the specific features in the distribution of their productive forces and the development of transport communications, the European part of the USSR and the Caucasus have become the principal territories for the location of recreational institutions. Great attention is devoted to the development of the recreational economy in the Urals, Siberia, the Soviet Far East and Central Asia.

A closer examination of the data concerning the distribution of recreational institutions reveals a "second level" of irregularity in the development of the territory. Even in

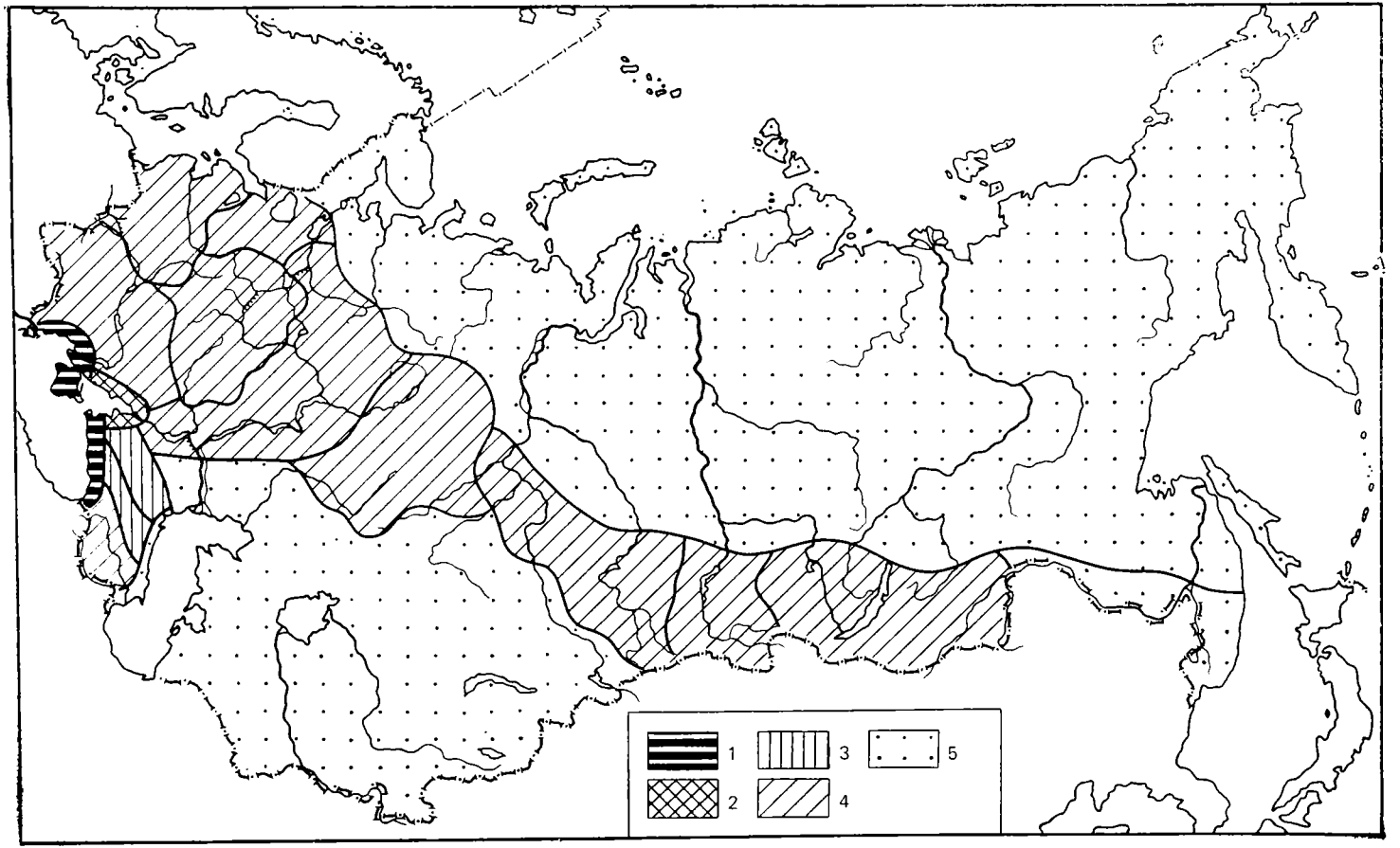

Fig. 11. Density of the available accommodations in the basic types of recreational institutions per 1,00 population (1976) (compiled by E. M. Rakovskaya and N. M. Stupina).
1—>32; 2—32-16.1; 3—16-8.1; 4—8-4.1; 5—<4.

regions with a high density of recreational institutions, their attraction to places with the most favourable natural conditions shows up clearly. As a rule sanatoria and other health-building institutions are located on the seashores. But they also gravitate to river banks suitable for strolling, bathing and sports. It is precisely for this reason that large recreational systems connected with two major rivers of the East European Plain, the Volga and the Dnieper, have evolved in the European part of the USSR in addition to the well-known territorial recreational systems of the Crimea and the Caucasus.

Part II

THE RECREATIONAL REGIONS OF THE USSR

Recreational Zoning

On the one hand, a recreational region is qualified as an economic unit and, on the other hand, as an element of special recreational zoning. In the first case, its leading (or one of the leading) economic functions[1] is the servicing of tourists, vacationers and persons undergoing medical treatment. This point of view fully accords with the principles of economic zoning. In the second case, a recreational region is identified as a territory more or less uniform in the nature of its recreational use. This recreational use, in its turn, may be characterised primarily by the degree of recreational development and the structure of recreational functions. Recreational zoning can also be done on the basis of actual or potential use. The zoning diagram reflects a certain stage in the spatial distribution of recreational activities. For this reason its contours may change in the course of time.

Recreational zoning proper should be distinguished from zoning according to natural conditions available for recreational activity and natural resources of the recreational economy.

It should be emphasised that often, there is no principal difference between economic units specialising in the recreational services and regions used for recreational purposes. Everything depends on the varying points of view toward the subject under study. The first approach is more expedient for general economic research. When studying the organisation of recreation as a social phenomenon and particularly when solving problems connected with the design of recreational institutions, the recreational zoning proper is more relevant.

[1] The economic function is determined by the size of profit derived from recreational services, the number of persons engaged in recreational services, etc.

Table 3

The Functional (Medical and Health-Building) Structure of Recreational Regions and Zones of the USSR
(the number of institutions and their accommodation capacity in %% for 1976)

Recreational regions and zones	Sanatoria and holiday homes with medical treatment		Rest and holiday homes		Recreation centres		Tourist institutions		Total number of medical and health-building institutions
	total	number of accommodations	total	number of accommodations	total	number of accommodations	total	number of accommodations	Total
1 2	3	4	5	6	7	8	9	10	11
The country as a whole	23.7	29.6	11.8	20.5	54.9	31.8	9.6	18.1	100
Zone I	29.1	37.5	17.8	22.9	42.1	24.9	11.0	14.7	100
1. The Black Sea Coast of the Caucasus	23.0	30.8	29.4	35.9	39.6	22.7	8.0	10.6	100
2. North Caucasian	77.8	84.3	1.3	0.6	8.9	1.1	12.0	14.0	100
3. Caucasian Mountains	24.0	29.4	15.3	4.6	5.6	1.1	55.1	64.9	100
4. Transcaucasian	48.5	50.6	17.7	19.3	14.3	4.6	19.5	25.5	100
5. Caspian	69.5	67.1	3.4	9.8	25.4	20.0	1.7	3.1	100
6. Crimean	34.0	47.7	19.8	23.2	41.8	21.6	4.4	7.5	100
7. Odessa	14.9	22.7	14.1	27.6	68.7	44.4	2.3	5.3	100
8. Azov	8.9	12.5	12.9	20.0	75.8	63.0	2.4	4.5	100

Continued

Recreational regions and zones	Sanatoria and holiday homes with medical treatment		Rest and holiday homes		Recreation centres		Tourist institutions		Total number of medical and health-building institutions
	total	number of accommodations	total	number of accommodations	total	number of accommodations	total	number of accommodations	Total
1 2	3	4	5	6	7	8	9	10	11
Zone II	20.0	26.2	9.4	20.8	66.1	42.6	4.5	10.4	100
9. Central	33.4	28.2	20.1	31.4	41.2	28.3	5.3	12.1	100
10. North-Western	27.7	29.8	11.8	26.1	51.0	27.0	9.5	17.1	100
11. Western	8.7	27.0	3.8	15.5	85.3	47.8	2.2	9.7	100
12. Dnieper-Dniester	21.8	26.7	8.4	16.0	62.9	45.9	6.9	11.4	100
13. Volga	16.6	17.9	8.6	19.4	71.9	55.6	2.9	7.1	100
14. Ural	30.4	30.6	12.0	18.4	52.8	42.2	4.8	8.8	100
Zone III	35.9	37.7	15.8	24.4	40.7	24.1	7.6	13.8	100
15. Central Asian	43.7	41.9	22.9	30.9	24.9	15.2	8.5	12.0	100
16. Ob-Altai	29.7	28.2	6.9	19.4	59.1	42.6	4.3	9.8	100
17. Yenisei	30.8	43.6	9.6	18.8	46.2	13.1	13.4	24.5	100
18. Baikal	26.6	37.2	14.2	11.1	51.6	32.4	7.6	19.3	100
19. Far Eastern	33.0	39.9	12.5	16.3	43.2	17.2	11.3	26.6	100
Zone IV									
20. Northern	48.8	36.5	7.1	7.2	6.0	2.5	38.1	53.8	100

Like other types of functional territorial division, in recreational zoning many factors must be taken into account the essence of which is determined by the objective of work (for example, a study of the degree of development of general recreational functions, an analysis of the structure of the recreational functions of a territory, a study of the forms of recreational development, etc.). Each of these factors may be characterised with the aid of a large number of criteria (the absolute and relative number of institutions, the level of intra-sectoral specialisation and interrelations).

To make the zoning diagram suitable for forecasting trends in the development of the recreational network, it has been based on the degree of development of the territory's recreational functions, which was determined by the degree of concentration of sanatoria and rest homes for adults. As a result, four large zones have been singled out.

At the next stage of zoning attention was paid to the predominance or combination of the leading functions of recreational institutions (medical, health-building, tourist, excursions). The respective areas were designated as regions. Account was also taken of the orientation of the recreational economy of the region toward providing services for the entire population of the country, or of the adjacent districts, or for local residents only.

Recreational zoning may proceed in one or more stages. The absence of reliable information and rather superficial territorial differentiation have resulted in a two-stage zoning. Integration processes may lead to the formation of units larger than regions, such as the Caucasus and Siberia. On the other hand, processes of territorial differentiation lead to the formation of units smaller than recreational regions (in the Western, North Caucasus and Dnieper-Dniester regions) such as localisations,[1] nuclei and foci of concentration, which in the future may develop into independent recreational regions.

The country's territory is divided into four recreational zones (I-IV), three of which are subdivided into 19 regions (Fig. 12, Table 3).

An analysis of this schematic diagram shows that there are regions with a very high degree of development of recreational functions. Most of them are located on the coasts

[1] Localisations are territories with a particularly high level of concentration of recreational institutions.

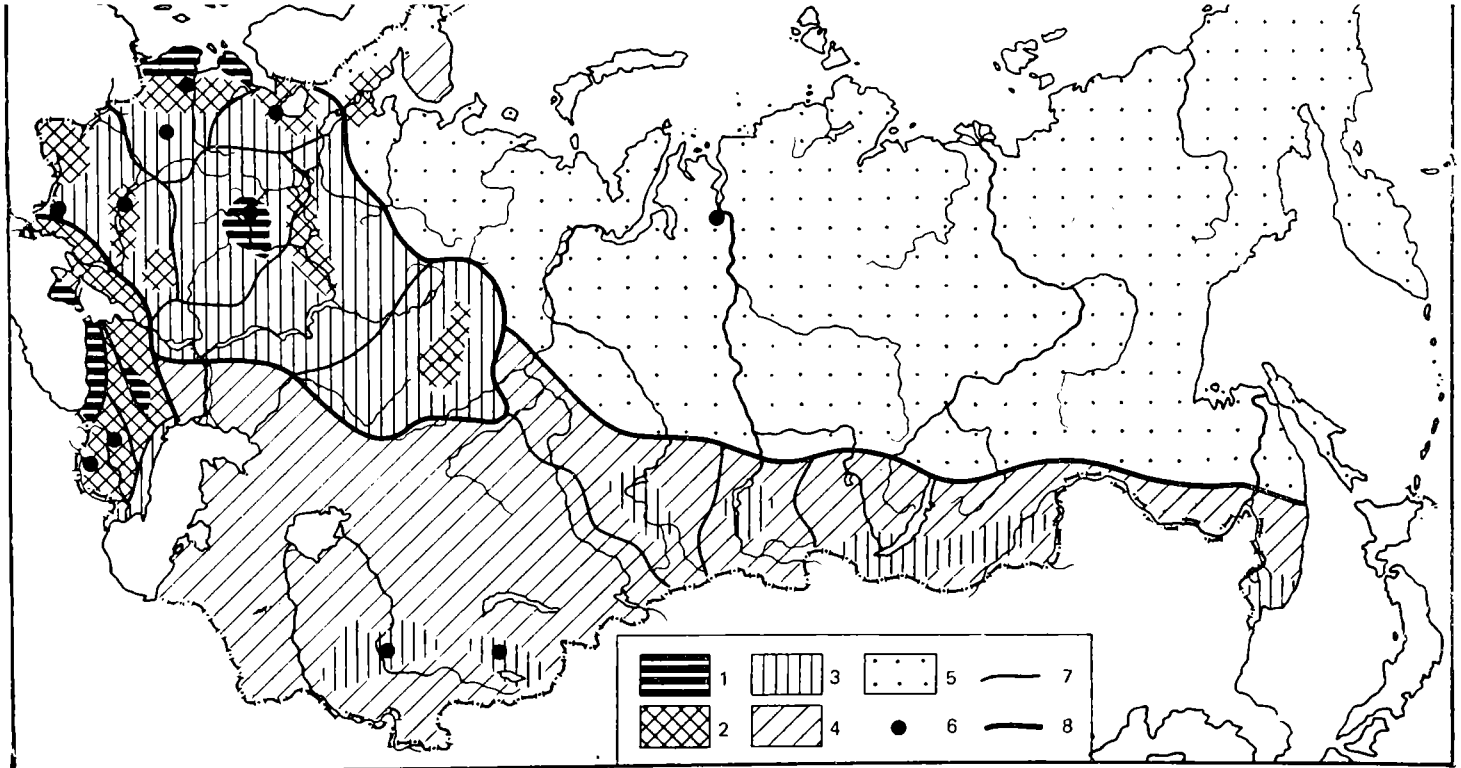

Fig. 12. Recreational zoning of the USSR (compiled by V. S. Preobrazhensky and B. N. Likhanov). Regions and localisations with the density of institutions: 1—very high; 2—high; 3—average; 4—low; 5—very low; 6—excursion centres; 7—boundaries of recreational regions; 8—boundaries of recreational zones.

of warm seas and in the Caucasus. But it would not be entirely correct to distinguish them as the only "regions providing recreational services" since an analysis of other regions shows that all of them provide recreational services for the local population. Moreover, almost every region is used for sightseeing trips and excursions by the population of other regions. However, it is possible to differentiate regions according to their role in the territorial division of labour in providing recreational services. Some regions (the Crimea and the Caucasus) provide a wide range of services for all the other regions of the country, other regions cater to the adjoining territories (Azov, Odessa) while there are regions that provide health-building cycles for the local population only and are used for sightseeing trips by residents of other regions (North-Western Volga, Dnieper-Dniester).

Data concerning the structure of medical and health-building institutions of various types (Table 3) testify to the differences in the functional structure of regions; there are both regions with a sharp predominance of one of the functions (for example, the Caucasian Mountains) and multi-functional regions.

Functional limitations do not always testify to a high level of development of the region (North Caucasus—medical, the Caucasian Mountains—sports and tourism). More often than not, they simply indicate that the recreational development of a territory is in the initial stages. On the contrary, a more or less uniform representation of institutions with different functions testifies to the relative maturity of the region (the Crimean, the Black Sea Coast of the Caucasus, the Central region). This position is confirmed by the characteristics of informational variations calculated by Y. A. Vedenin which are given below.

Processes of territorial agglomeration are characterised by the existing maturity indices. They proceed most intensively in the two recreational regions of the medical and health-building type of Zone I (the Black Sea Coast of the Caucasus and the Crimea) and in one medical region (North Caucasian).

Greater Sochi, one of the largest resort agglomerations, and a system of resort towns (Gelenjik, Gagra, Anapa) have developed on the Black Sea Coast of the Caucasus.

Another large resort agglomeration—Greater Yalta—as

well as many resort towns and settlements—Yevpatoria, Alushta, Sudak, Planerskoye and others are located in the Crimea.

The highly-developed recreational region of the North Caucasus has one resort agglomeration on its territory (the Caucasian Mineral Waters) and a fairly large resort zone emerging close to Nalchik.

The effect of agglomeration processes on the structure of the other regions of Zone I is much less significant. Only

	Variations
The Country as a Whole	1,8919
Zone I	
1. The Black Sea Coast of the Caucasus	18,827
2. North Caucasian	07,151
3. Caucasian Mountains	11,999
4. Transcaucasian	16,624
5. Caspian	13,344
6. Crimean	17,559
7. Odessa	17,429
8. Azov	14,606
Zone II	
9. Central	19,234
10. North-Western	19,719
11. Western	17,624
12. Dnieper-Dniester	18,045
13. Volga	16,450
14. Ural	16,450
Zone III	
15. Central Asian	18,495
16. Ob-Altai	18,268
17. Yenisei	18,567
18. Baikal	18,176
19. Far Eastern	19,005
Zone IV	
20. Northern	14,198

in the case of the Odessa region is it possible to speak with any degree of certainty of a single resort agglomeration, which embraces mainly the recreational institutions in the Odessa suburbs. There are one resort town (Skadovsk) and a number of resort settlements in this region.

Two other seaside recreational regions of Zone I (Caspian and Azov) are still poorly developed. There are no resort agglomerations here. The only large focus of concentration

is developing on the Apsheron Peninsula, not far from Baku. In the Azov recreational region resort zones have developed or are being developed in the towns of Berdyansk, Eisk and Zhdanov.

There are several resort towns and settlements in the Transcaucasian recreational region. Among them are the balneological spas of Tskhaltubo and Borzhomi, with Bakuriani developing as a winter sports centre.

The development of sports tourism in the Caucasian Mountains has predetermined the prevalence of small tourist settlements (Dombai, Tsei, Arkhyz, Terskol).

There are far fewer resort agglomerations and towns on the territory of Zone II, which are characteristic only for the Western and Dnieper-Dniester regions. Active agglomeration processes are affecting institutions with medical and health-building functions here (the Baltic Sea coast in the Western region, and the Carpathians in the Dnieper-Dniester region). The resort agglomeration of Jurmala has developed on the territory of the Western region. Many towns have emerged either on the basis of balneological resorts (Druskininkai, Birštonas, Truskavets), or in the seaside localities (Palanga and the resort towns of the Kaliningrad Region), or as mountain sports centres (Yaryomcha).

In the majority of regions of Zone II, the process of agglomeration manifests itself in the development of urbanised suburban zones of large and very large cities, as well as of a wide network of excursion and tourist agglomerations and cities. The most developed network of recreational institutions is characteristic for the Central and North-Western regions. Various types of summer villages have developed here alongside such recreational institutions as sanatoria, rest homes and Young Pioneer camps.

The concentration of summer villages and resorts has led to the emergence of the resort zone of Leningrad, running along the Karelian Isthmus on the Gulf of Finland. The country's largest tourist agglomerations are concentrated in the Central and North-Western regions, with their centres in Moscow and Leningrad. Tourist services are developing in such regional centres as Novgorod and Pskov, and there are grounds to believe that they may become independent excursion-tourist agglomerations.

A high degree of specialisation in providing excursion and tourist services distinguishes many cities of the Central

recreational region (Yaroslavl, Uglich, Vladimir, Suzdal and others) which are part of the so-called Golden Ring.

Almost identical processes are taking place in the greater part of the territory of the Dnieper-Dniester and Western

The name of the region	Basic function	Orientation	Degree of development
1. The Black Sea Coast of the Caucasus	medical and health-building	national	developed
2. North Caucasian	medical	national	medium-developed
3. Caucasian Mountains	sports and tourist	national	medium-developed
4. Transcaucasian	medical and tourist	national	medium-developed
5. Caspian	medical	local	poorly-developed
6. Crimean	medical and health-building	national	developed
7. Odessa	health-building	neighbouring regions	medium-developed
8. Azov	health-building	neighbouring regions	poorly-developed
9. Central	excursions and health-building	national, local	developed
10. North-Western	health-building and excursions	local, national	medium-developed
11. Western	excursions and health-building	neighbouring regions, local	medium-developed
12. Dnieper-Dniester	excursions and health-building	local	medium-developed
13. Volga	excursions and health-building	neighbouring regions, local	medium-developed
14. Ural	health-building	local	poorly-developed
15. Central Asian	medical and health-building	local	poorly-developed
16. Ob-Altai	health-building and medical	local	poorly-developed
17. Yenisei	health-building and medical	local	poorly-developed
18. Baikal	health-building and medical	local, neighbouring regions	poorly-developed
19. Far Eastern	medical and health-building	local, neighbouring regions	poorly-developed
20. Northern	medical and tourist	local, national	poorly-developed

Table 4

The Regional Structure of the Basic Sub-Sectors of the USSR's *(per cent)*

Recreational zones and regions	Population		Functional				
	total population	including urban	Sanatoria and holiday homes with medical treatment	Rest and holiday homes	Recreation centres		
			capacity		Total capacity	Including hunters' and fishermen's hostels	
						capacity	area
1 2	3	4	5	6	7	8	9
USSR as a whole .	100	100	100	100	100	100	100
Zone I	12.3	11.5	39.6	34.4	24.1	6.0	5.5
1 The Black Sea Coast of the Caucasus	1.0	1.2	9.0	15.5	6.3		
2 North Caucasian	2.1	1.6	7.4	0.1	0.1		
3 Caucasian Mountains	1.6	0.8	2.7	0.6	0.1	4.5	5.5
4 Transcaucasian . .	3.8	2.9	4.6	2.5	0.4		
5 Caspian	1.1	1.6	1.5	0.3	0.4		
6 Crimean	0.8	0.9	9.4	6.5	3.9		
7 Odessa	0.9	1.4	3.6	6.3	6.5	1.4	0.1
8 Azov	1.0	1.1	1.4	3.2	6.7		
Zone II	60.1	63.2	43.8	50.8	66.4	63.6	58.0
9 Central	13.8	16.0	9.6	15.6	9.0	13.4	12.7
10 North-Western . .	3.1	4.2	3.7	4.6	3.1	7.6	5.8
11 Western	6.7	6.4	7.2	5.8	11.7	8.1	12.2
12 Dnieper-Dniester	18.3	16.7	11.4	9.8	17.9	8.0	6.0
13 Volga	10.7	11.3	5.5	8.8	16.1	10.0	11.4
14 Ural	7.5	8.6	6.5	5.6	8.4	16.5	9.8
Zone III	25.0	22.2	15.8	14.6	9.4	27.0	30.6
15 Central Asian . .	15.4	11.4	9.1	9.7	3.0	6.8	14.0
16 Ob-Altai	4.7	5.1	3.0	3.0	4.3	12.3	10.2
17 Yenisei	1.2	1.3	0.8	0.5	0.2	3.1	1.1
18 Baikal	1.8	2.0	1.7	0.7	1.4	2.1	2.1
19 Far Eastern . . .	1.9	2.4	1.1	0.7	0.4	2.8	3.2
Zone IV							
20 Northern	2.6	3.1	0.8	0.2	0.1	3.4	5.9

types									
Tourist			Excursion services	Mountaineering camps		Out-of town Young Pioneer camps	Work and Rest Camps		Gardening Societies
Tourist institutions	tourist itineraries			capacity	number of persons served		number		
capacity	national	local	number of persons served				of camps	of children served	number of members
	number								
10	11	12	13	14	15	16	17	18	19
100	100	100	100	100	100	100	100	100	100
38.8	56.1	24.1	25.5	70	74	8	6	8	8
7.8	19.0	6.4	7.2						
3.0	8.4	6.4	4.1						
15.1	8.6	2.5	0.2	70	74	5	4	6	5
5.7	9.3	3.1	3.6						
0.2	3.2	0.2	0.6						
3.6	4.3	2.2	6.0						1
2.0	1.9	2.0	2.9			3	2	2	1
1.3	1.4	1.3	0.7						1
43.9	35.1	48.0	63.5	0	0	65	75	67	71
10.4	5.7	11.2	17.1			20	20	16	18
5.3	8.4	6.7	10.3			5	5	3	5
6.4	4.5	4.7	10.9			5	13	8	5
11.8	12.9	10.0	12.6			14	13	15	7
5.6	2.7	6.6	9.1			11	16	16	21
4.6	0.9	8.8	3.6			10	8	9	15
14.3	7.0	25.6	10.3	30	26	25	15	23	20
6.5	4.8	13.1	6.1	30	26	11	4	10	7
2.6	1.4	4.1	1.8			7	8	8	7
1.1	0.4	3.1	1.0			1	1	1	2
2.2	0.2	2.5	0.4			3	1	2	2
1.8	0.2	2.8	1.1			3	1	2	2
3.0	1.8	2.3	0.7			2	4	2	1

regions. Such cities as Riga, Tallinn, Vilnius, Kiev, Lvov and Kamenets-Podolsky are becoming popular excursion and tourist centres. Resort towns and zones (Noviye Sanzhary, Slavyanogorsk and others) have developed on the territory of the Ukraine (in addition to those in the Carpathians and on the seashore) as well as in Byelorussia. However, separate resort institutions predominate here, which is evidence of the relatively poor recreational development of the region.

Zone III is oriented toward providing services for the resident population and the agglomeration processes are poorly developed there.

Thus, three factors have been used for the typological classification of the regions given below: 1) basic function, 2) orientation on external or local needs and 3) the degree of development of the structure.

However, most of the regions differ from one another fairly distinctly by number of recreation centres, gardening societies, and other recreational institutions (Table 4).

The overall classification of regions based on their chief functions does not, however, provide exhaustive enough material for analysing the laws governing the territorial organisation of the recreational economy. This is why an analysis of the recreational sub-sectors is required.

The Sub-Sectors of the USSR's Recreational Economy

Recreational economy is a complex sector which is divided into a number of sub-sectors, according to function and management:

sanatoria and holiday homes with medical treatment;
rest and holiday homes;
tourist hostels and tourist itineraries;
excursion bureaus, travel bureaus, excursion itineraries;
children's excursion bureaus and tourist hostels;
recreation centres;
hostels and grounds of the hunters' and fishermen's societies;
Young Pioneer camps;
sports and work and sports camps for teenagers;
summer houses of kindergartens and nurseries;
hotels and Intourist itineraries;
hotels and itineraries of the Sputnik youth travel bureau;

hotels, motels, camping grounds and tent towns belonging to local Soviets of People's Deputies;
rooming services and room-letting agencies;
gardening societies;
summer-house building cooperatives;
rest homes of the writers', artists', actors' and musicians' unions;
national parks.

Each of these sub-sectors has its own territory. But there are other territories in addition to those listed above, for example, forest-park and suburban zones which are used for informal recreation. However, it is possible to speak of their informal character only with reservations, because very often these zones are connected with the city by bus routes and railways, have more or less developed tourist services, and there are certain rules which holiday-makers are called upon to observe. In addition, there are various facilities, first and foremost hotels, the recreational function of which is viewed as secondary, since the majority of them are used primarily for accommodating persons arriving on business. Rest homes of the writers', artists', actors', and musicians' unions may also be placed in the category of informal recreation.

These sub-sectors are classified by the recreational resources they require and by their technical and economic indicators (which depend on their specific features, their history and present standard). Each sub-sector has its own labour structure and its own scale of disbursement for resources, maintenance, wages and salaries.

Sanatoria and holiday homes with medical treatment are one of the oldest and well-developed sectors of the recreational economy. They account for approximately one-third of the total number of places in the functional structure of the country's recreational facilities for adult staying visitors. In 1979 there were 2,355 sanatoria and holiday homes with medical treatment which could accommodate 542,000 visitors at a time and which accommodated 5,008,000 visitors during the year. The length of stay varied from 20 to 26 days, with the majority of visitors staying 24 days. Most of the sanatoria are open all the year round. The permanent staff totalling about 300,000 ensures good service.

Over 80 per cent of the accommodations at sanatoria and holiday homes with medical treatment are located in zones I and II, where over 72 per cent of the country's population is

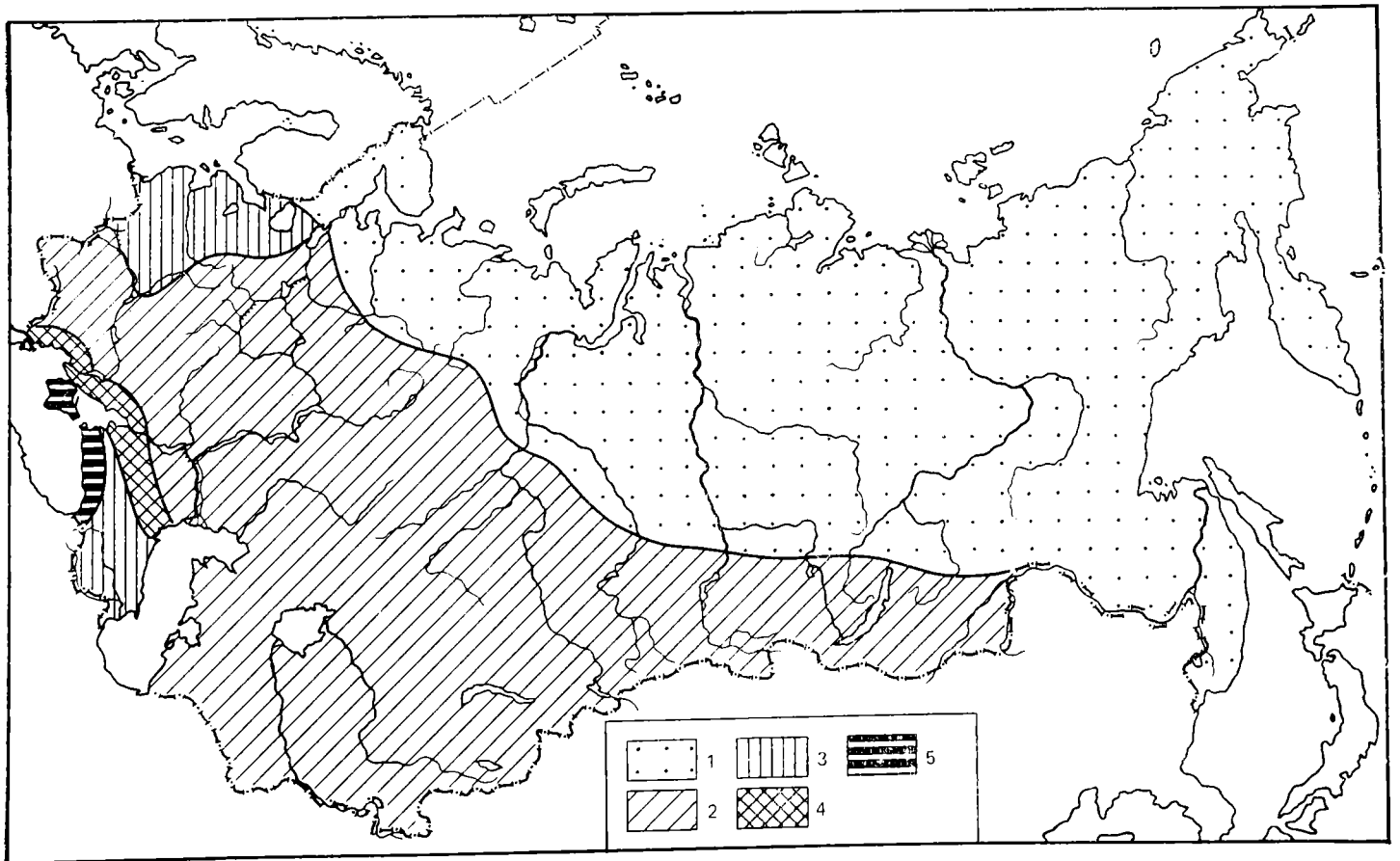

Fig. 13. Classification of recreational regions according to the number of sanatorias' accommodations per 1,000 population (compiled by L. S. Filippovich).
1—<0.5; 2—0.5-2; 3—2-7; 4—7-16; 5—>16.

concentrated (Fig. 13). Over 60 per cent of the sanatoria's accommodations are concentrated in regions that lie south of the 52°N in Zone I, in the Dnieper-Dniester and Central Asian regions. In the sanatoria of the Crimean, the Black Sea Coast of the Caucasus, and the Odessa and North Caucasian regions the number of accommodations per 1,000 local population is 22.7, 17.6, 7.5 and 6.9 respectively (Table 5). In the North Caucasian recreational region the relative weight of sanatoria among other institutions for staying visitors is as high as 84 per cent.

One should also note that the sanatoria are concentrated in the proximity to large urban agglomerations (the Central region accounts for 10 per cent, the Western region for 7 per cent, and the Ural region for 7 per cent of the accommodation capacity).

Thus, two localising factors play a distinctive role in the formation of the sanatoria network of the USSR; the high selectivity of institutions of this type, that gravitate, on the one hand, to districts with the longest comfortable period, to the coastlines of warm seas, to large sources of mineral waters and curative muds, and, on the other, to areas with concentrations of population where the demands are greatest. Both factors work for a more effective network of sanatoria.

The drive for larger sanatoria and for creating recreational combines or complexes results in the greater concentration and better functioning of these institutions.

In regions where the number of sanatoria is comparatively small most of them are situated in the vicinity of large sources of mineral waters, along well-drained wooded shores of rivers and lakes, i.e., in places with the most favourable conditions to modify the generally uncomfortable climatic background.

Rest and holiday homes account for about 21 per cent in the functional structure of the country's recreational institutions for adults. In recent years this sub-sector has emerged as a nucleus in the formation of institutions of family rest. In 1979 there were 1,208 holiday and rest homes with a capacity of 380,000, and they served 5,356,000 during the year. The average length of stay is 12 days (on the Black Sea Coast of the Caucasus, it varies from 19 to 24 days for those arriving from distant areas). There are approximately 120,000 persons employed as service personnel in holiday and rest homes.

Table 5

The Capacity and the Number of Persons Accommodated per 1,000 Population at the Basic Types of Medical-and Health-Building Institutions (by Recreational Zones and Regions)

Recreational zones and regions	Recreational network					
	Sanatoria and holiday homes with medical treatment	Rest homes and holiday homes	Recreation centres		Tourist institutions	Young Pioneer camps
			Total	Including hunters' and fishermen's hostels		
	capacity					
1 2	3	4	5	6	7	8
Zone I	6.3	3.9	4.2	0.1	2.5	5.9
1 The Black Sea Coast of the Caucasus	17.6	20.6	13.0		6.1	
2 North Caucasian	6.9	0.1	0.1		1.1	
3 Caucasian Mountains	3.4	0.5	0.1	0.1	7.6	4.9
4 Transcaucasian	2.4	0.9	0.2		1.2	
5 Caspian	2.8	0.4	0.8		0	
6 Crimean	22.7	11.0	10.3		3.5	
7 Odessa	7.5	9.1	14.7	0.1	1.7	9.1
8 Azov	2.7	4.3	13.6		1.0	
Zone II	1.4	1.1	2.3	0.2	0.6	9.2
9 Central	1.4	1.6	1.4	0.2	0.6	12.6
10 North-Western	2.4	2.1	2.1	0.5	1.4	12.0
11 Western	2.1	1.2	3.7	0.2	0.8	6.1
12 Dnieper-Dniester	1.2	0.7	2.1	0.1	0.5	6.5
13 Volga	1.0	1.1	3.2	0.2	0.4	8.8
14 Ural	1.7	1.0	2.4	0.4	0.5	11.8
Zone III	1.3	0.8	0.8	0.2	0.4	8.4
15 Central Asian	1.2	0.9	0.4	0.1	0.3	5.9
16 Ob-Altai	1.3	0.9	1.9	0.5	0.4	12.6
17 Yenisei	1.4	0.6	0.4	0.5	0.8	12.3
18 Baikal	1.9	0.6	1.6	0.2	1.0	12.3
19 Far Eastern	1.2	0.5	0.5	0.3	0.8	13.0
Zone IV						
20 Northern	0.8	0.1	0.1	0.2	0.9	6.3

Rest homes are essentially located in the same zones as sanatoria: Zone I seems to be the most prominent, meeting some 35 per cent of the demand (Table 4). Rest homes of Zone II, which is the most densely populated, have more places than sanatoria. Upon closer examination one may notice that recreational institutions gravitate to the southern coastal regions (the Black Sea Coast of the Caucasus, the Crimean, Odessa, and Azov regions) accounting for 31 per cent of all accommodations and to the major rivers of the East-European Plain (the Volga and Dnieper-Dniester regions accounting for 19 per cent). The Central region accounts for approximately 16 per cent.

There are quite a few rest homes on the Black Sea Coast of the Caucasus (36 per cent), in the Crimean (23 per cent) and in the Central (31 per cent) and Central Asian (31 per cent) regions (Table 3). On the Black Sea Coast of the Caucasus and in the Crimea the number of accommodations per 1,000 resident population is 20.6 and 11 respectively (Table 5).

The same localising factors as in the case of sanatoria are at work in this sub-sector: a choice of comfortable regions and a gravitation to places where the population is concentrated, the role of the second factor being somewhat more important here. At the same time, when choosing a location for individual rest and holiday homes, even more so than for sanatoria, priority is given to places with the most comfortable mezzo-and microclimatic conditions, to well-drained shores of rivers, lakes and man-made reservoirs, to forests and the mid-mountain areas which makes it possible to organise a wide range of recreational activities.

Recreation centres, sports and tourist camps, hunters' and fishermen's hostels and other prophylactic facilities are very much like rest homes in their function. They account for about 32 per cent of the accommodation capacity in the system of the basic therapeutic and prophylactic medical institutions of the country. In 1980, there were 6,065 recreation centres that could accommodate 634,000 visitors at a time, and that accommodated 3,001,000 during the year. The average length of stay is 12 days. Many of the recreation centres are used for family rest. These centres are built at the expense of the social development fund, representing a deduction from the profits of industrial enterprises, state farms and public organisations. They are usually located

not far from places where there is a demand for them. The rapid development of this sub-sector during the last decades may be explained not only by the growth of the popularity of family vacations (87 per cent are vacationers with families), but also by the necessity of using this sub-sector for organising annual as well as weekly vacations on a mass scale.

The geography of recreation centres has a number of specific traits. In the first place, it should be noted that Zone II—with its high population density—accounts for two-thirds of the available accommodations (Table 4). Moreover, 46 per cent of the accommodations are concentrated in three regions (the Dnieper-Dniester, the Volga and the Western), Zone I accounts for only 24 per cent of the accommodations, 20 per cent of which are concentrated in the Azov and Odessa regions and on the Black Sea Coast of the Caucasus (the Donbas agglomeration and the coastal industrial cities are areas where the demand for these territories is generated).

At the present time institutions of this type play a leading role in the functional structure of many regions of the country (both in number and in capacity). Thus, they comprise over 40 per cent of the capacity of the medical institutions in the Odessa, Azov, Western, Dnieper-Dniester, Volga, Ural and Ob-Altai recreational regions.

The coastal regions near Odessa (14.7) and Azov (13.6), the Black Sea Coast of the Caucasus (13) and the Crimean (10.3) take first place in the number of accommodations per 1,000 residents (Table 5).

Thus, the distribution of the institutions of this sub-sector clearly reflects their connection with areas in which (or beside which) the demand is generated. At the same time they are attracted to areas with comfortable conditions (seashores, rivers and forests). However, in the latter case recreation centres are given lands that are not occupied by sanatoria and rest homes, or less comfortable strips of the coast (near Odessa and on the Sea of Azov). In regions with satisfactory conditions recreation centres initiate the selected development of the most comfortable lands.

Hunters' and fishermen's hostels are a specific form of recreation centres. The Hunters' and Fishermen's Society had, in 1979, nearly 4,000 lodges and hostels with an accommodation capacity of about 65,000 places and a total of 253,000,000 hectares of hunting grounds. The length of stay varies from 1-2 days to a month. Approximately

30,000 are employed as service personnel. The membership of the Hunters' and Fishermen's Society is over 3,000,000.

The geography of these recreational institutions differs substantially from those examined above. They are characterised by a low relative weight in Zone I, by a close correspondence of their accommodation capacities, by the amount of land allocated to them, and by the size of the population in zones II and III. Differences in the size of land resources and the number of accommodations available at the hunters' and fishermen's hostels should also be noted.

According to the relative weight of lands allocated to these institutions the recreational regions are classified as follows: Central Asian (14 per cent), Central (13 per cent), Western (12 per cent), Volga (11.5 per cent), Ob-Altai (10 per cent), Ural (10 per cent). The Northern Region accounts for 6 per cent. But according to the number of accommodations the Ural region is the most prominent (16 per cent), then follow the Central (13 per cent), Ob-Altai (12 per cent) and Volga (10 per cent) regions.

This shows that there are fewer concentrations of hunters' and fishermen's hostels in the south-western part of the country with its agriculturally-developed territories. They occupy larger tracts of land in the eastern settled regions of the country with their mountain areas, while the number of accommodations they provide is greater in regions with large clusters of the urban population. In other words, a certain level of recreation demand emerges here both as a generating and a localising factor. The majority of the hostels are located on the shores of lakes and banks of rivers and in forests.

The tourist sub-sector includes tourist institutions, itineraries and excursion services.

The number of tourist institutions (tourist hostels, camping grounds, branches of tourist hostels, tourist hotels, tourist shelters and camp sites) has greatly increased in recent years. In 1980, they accounted for some 18 per cent of the accommodation capacity in the overall system of the country's recreational institutions. The Central Council for Tourism and Excursions of the AUCCTU owned or rented 963 tourist hostels (including water-borne) with 361,000 places while the total number of visitors reached 22,503,000. Many tourist institutions have their own beaches, first-aid stations and various other equipment, and half of the

tourist centres are open the year round. Approximately 100,000 work as service personnel in this network.

Some 83 per cent of the capacity of the tourist institutions is almost equally divided between recreational zones I and II, the Caucasian Mountains, the Dnieper-Dniester and Central recreational regions and the Black Sea Coast of the Caucasus accounting for 45 per cent of the accommodations (Table 4).

Regions with comfortable recreational resources and a small demand have the largest number of accommodations per 1,000 resident population (Table 5). The figures for the Caucasian Mountains, the Black Sea Coast of the Caucasus and the Crimea are 8, 6 and 4 respectively. Whereas in the majority of regions with a large demand and a well-developed transportation network the number of accommodations is fewer than in Zone I. This is also true of zones III and IV where the demand is smaller and transportation facilities poorer.

When selecting localities for organising tourist institutions priority is given to places with favourable and varied (including exotic) natural conditions, to interesting cultural and historical sites and to large centres where demand for recreation is generated. The Caucasian Mountains with their large recreational resources provide the greatest opportunities for tourism. This is also true of the Dnieper-Dniester and Central regions with their large industrial agglomerations and, consequently, a great demand for recreation.

There are far more tourist institutions than sanatoria and rest homes in Zone IV and in several Siberian regions of Zone III, which have less favourable climatic conditions but are more exotic and interesting from the point of view of sightseeing.

The tourist sub-sector is subdivided into sports and educational tourism. Furthermore, sports tourism cannot be isolated from sports rest. As an example of this we may cite the downhill skiing organisation, its material and technical facilities include tourist hostels and hotels.

Tourist hotels, motels and camping grounds, as well as tourist hostels associated with sightseeing trips, are used for educational tourism.

Extensive use is made of tourist hostels located outside of cities as well as of tourist hotels and chalets in mountainous regions of the country. At the same time downhill skiing centres form a clearly defined pattern which depends on the

lay-out of ski trails and lifts. At the present time, there are 23 floating chair-lifts and 28 large cable roads in the country (as of January 1, 1978).

Tourist itineraries are a component part of the tourist services. In 1978, there were 302 national (planned for 625,000 persons) and over 1,200 main local itineraries (hiking by water, skiing, automobile, by rail and mixed). Out of the total number of local itineraries, 26 per cent were designed for parents with children and for older schoolchildren. The duration of an excursion along a national itinerary ranges from 10 to 23 days.

Planned tourist itineraries are serviced by tourist institutions. Long distances call for extensive use of all modes of transport. In recent years much attention has been devoted to organising railway itineraries. As a rule, tours by rail or by air are scheduled off season when tickets are available at a discount.

The geography of tourist itineraries is similar to the geography of tourist institutions. Ninety-one per cent of the national tourist itineraries pass through zones I and II (56 and 35 per cent respectively), zones with favourable and exotic natural conditions and an abundance of cultural and historical sights. Tourist itineraries are particularly plentiful on the Black Sea Coast of the Caucasus, in the Dnieper-Dniester, Transcaucasian, Caucasian Mountains and North-Western recreational regions (Table 4). Approximately 50 per cent of the local itineraries pass through Zone II, a zone of large industrial centres with a large demand for recreation, and are intended for use by the working people of this zone (Central, Dnieper-Dniester and Ural regions).

Zones III and IV have considerably fewer national and local tourist itineraries, accounting for 9 per cent of the national and 28 per cent of the local itineraries which pass through the most exotic places in the mountainous regions of the Altai, Central Asia, Kamchatka and run along the Ob, Yenisei, Lena and Amur rivers. The Baikal area is also being developed. The architectural and historical monuments of Central Asia (Samarkand, Bukhara, Khiva and other cities) are being drawn into the sphere of recreational activities. Cruises are being organised in the Soviet Far East and even along the Northern Sea Route.

When choosing territories for tourist itineraries priority is given to places with favourable natural conditions, to

cultural and historical sites, as well as to centres with a large demand for recreation.

Excursion services are another component part of the tourist sub-sector. In 1976, 531 excursion bureaus and travel bureaus of the country served approximately 140,000,000 people. These services may be found in almost all the cities with a population of over 100,000.

Zone II accounts for the greater number of people interested in excursions (64 per cent), of which 17 per cent (Table 4) fall on the Central region with Moscow, the largest excursion centre of the country. There are 25 cities that cater to over one million such visitors yearly: Moscow, the capital city of the USSR and RSFSR, and Leningrad (over 9,000,000 each), Kiev, the capital of the Ukraine (over 4,500,000), the hero-cities of Odessa, Volgograd and Sevastopol (from 3,000,000 to 4,000,000), Tbilisi, Yerevan, Baku, Vilnius, Tallinn, Riga as well as the largest resort cities of the Caucasus and the Crimea and cities famous for their architectural monuments (Vladimir and others). Thus, large cities emerge both as centres of demand for excursion resources and as centres which possess them.

Natural, cultural and architectural monuments, military and historical complexes (dedicated, for example, to the heroic feats of the Soviet people during the Great Patriotic War) are offered to sight-seers by excursion bureaus.

In 1978, the amateur sports societies of the trade unions owned 20 mountaineering camps with 4 branches, which could accommodate over 14,000 during that year. The camps situated in the Caucasian Mountains provide 70 per cent of the available accommodations, and those in the Central Asian recreational region account for 30 per cent. The Caucasus, gravitating to regions with a high density of population and a developed social and economic infrastructure, outstrips Central Asia in this respect with its regions which are no less interesting. Just a little over 10 per cent of the total number is accommodated during the winter period (the figures for the Caucasus and the Central Asian mountains are 11 and 7 per cent respectively). The length of stay ranges from 20 to 30 days. There are 1,250 persons working as service personnel in the camps.

"The basic task of gardening societies as public organisations," it is noted in their Rules, "is the creation of collective gardens, and their further development for the purposes of

providing workers and employees with fruits and berries, creating conditions for the education of children through work and organising recreation for members of the societies and their families."

Collective gardens are cultivated on an area of 540,000 ha, and the number of workers' and office employees' families that have garden plots has reached almost 7,600,000.

Gardening societies are the sole land-users of garden plots which have been allotted by the executive committees of the local Soviets of People's Deputies to individual industrial enterprises and organisations, while the small summer-houses built on them are the personal property of the members of the aforesaid societies. The Land Code of the RSFSR says that "land plots for collective gardening are allotted to organisations and institutions from State land and State forest land reserves not subject to afforestation, which lie outside the land zones of cities or other population centres, and with due regard to the further expansion of territories of population centres".

The size of a gardening plot should not exceed 600 sq m and that of a plot in the Siberian and the Far Eastern districts of the Soviet Union 800 sq m. In the RSFSR the actual living space of a house built on a gardening plot ranges from 12 to 25 sq m plus a 10 sq m verandah for every family.

Gardening societies are located close to large industrial agglomerations (Moscow, for example), i.e. to places where they are in great demand, at distances of from 80 to 100 km. Over 70 per cent of the families which have gardening plots live in Zone II, where over 63 per cent of the urban population of the USSR is concentrated (Table 4). However, their distribution even in this zone is very uneven: over 50 per cent have gardens in three most densely-settled industrial regions—the Volga (21 per cent), the Central (18 per cent) and the Ural (15 per cent). These regions also occupy leading places among the regions of Zone II in the number of gardening plots per 1,000 urban population. However, the largest concentrations of these are in the Volga, Ural, Ob-Altai and Yenisei regions. Zone II ranks after Zone III in the amount of available land because of the large size of its urban population and the consequent great demand for plots, and also because of the more limited possibilities for allocating plots for gardening societies.

All this goes to say that the distribution of gardening

societies is closely connected with areas that have a high demand for plots—large industrial agglomerations with concentrations of urban population—and lands lying in zones with favourable climatic conditions. However, it should be noted that, as a rule, gardening societies cultivate plots of land in inconvenient locations at some distance from cities with high demand, since there is no good free land available.

The entire system of recreational institutions devotes special attention to the summer vacations of pre-school children and children of school age. The particular importance of this type of recreation may be explained by the solicitous attention of the state to the health of children. All urban agglomerations of the Soviet Union have country facilities for children. They are generally located at short distances from cities and in places favourable for recreation. These facilities are located significantly farther away in regions with poor climatic conditions. For example, the Young Pioneer camp of the Norilsk combine is situated on the banks of the Yenisei River 1,000 km away from this polar city; the Young Pioneer camps of the city of Murmansk are located in the south of the country. Organising children's tourism is also one of the activities of recreational institutions.

In addition to the permanent institutions for pre-school children, during the summer period, seasonal institutions and children's playgrounds are organised both in cities and outside of them.

Kindergartens and nurseries that move to the country for the summer are well supplied with money and all the necessary facilities. Approximately 100,000 persons are employed in servicing them. Children's summer camps, country houses and other recreational facilities are usually located close to cities, occupying the most favourable localities from the point of view of nature (forested and well-drained areas).

Suburban summer Young Pioneer camps are educational and health-building facilities for children from 7 to 15 years old, which are established primarily by trade unions of various enterprises and offices. Their number has reached over 10,000. They are able to accommodate over 2 million children during each shift and over 6 million during the whole summer season. The number of sessions at Young Pioneer camps is from 2 to 3 (there are, as a rule, 3 sessions), the length of a session is from 21 to 26 days (with an average of 24-25 days) and 39 days for those children who come south from

the northern regions. There are 480,000 persons who work as seasonal service personnel in this area.

In the majority of cases Young Pioneer camps are located in the vicinity of urban agglomerations, i.e., in places where there is a steady demand for them. Some of the camps are located on the Black Sea, the Sea of Azov and the Baltic Sea (Fig. 14). Zone II, the zone with the greatest population density, contains 65 per cent of the Young Pioneer camp accommodation capacity of the country (Table 4). The Central, Dnieper-Dniester, Volga and Ural regions (53 per cent of the country's population) account for 55 per cent of the accommodation capacity with the Central region (20 per cent) leading in this respect. Eighteen per cent of the accommodation capacity of the suburban Young Pioneer camps goes to Central Asian and Ob-Altai regions of Zone III where 20 per cent of the population of the country lives.

The large northern industrial regions of Zone II (Central, North-Western, Ural) and the Siberian regions (Ob-Altai, Yenisei, Baikal) have the greatest number of accommodations per 1,000 population.

The operation of two factors is observed in the territorial organisation of this sub-sector, just as in that of rest and holiday homes; attraction to places with a great demand and a selective approach to places with favourable natural conditions (good climate, rivers, lakes, water reservoirs and seas, as well as forests).

There are also work-and-rest camps in the country. According to the data for 1976 their number exceeded 14,000 and the number of children of the older age group accommodated in them (mainly 9th and 10th grades) was approximately 1.4 million. There are 1 or 2 shifts at these camps depending on the availability of the necessary work. The number of days during a single shift varies from 12-18 to 21 days. For children who come to the south from the northern regions, it is from 1.5 to 2 months. Work-and-rest camps, as a rule, are organised on the premises of rural schools, and the grounds of collective and state farms. At these camps rest is combined with 4 hours of work fit for boys and girls of this age bracket, and qualified personnel looks after them.

These camps are organised and managed by trade unions, the CC of the Young Communist League, the Ministries of Education and Health, and the executive committees of city and district Soviets of People's Deputies.

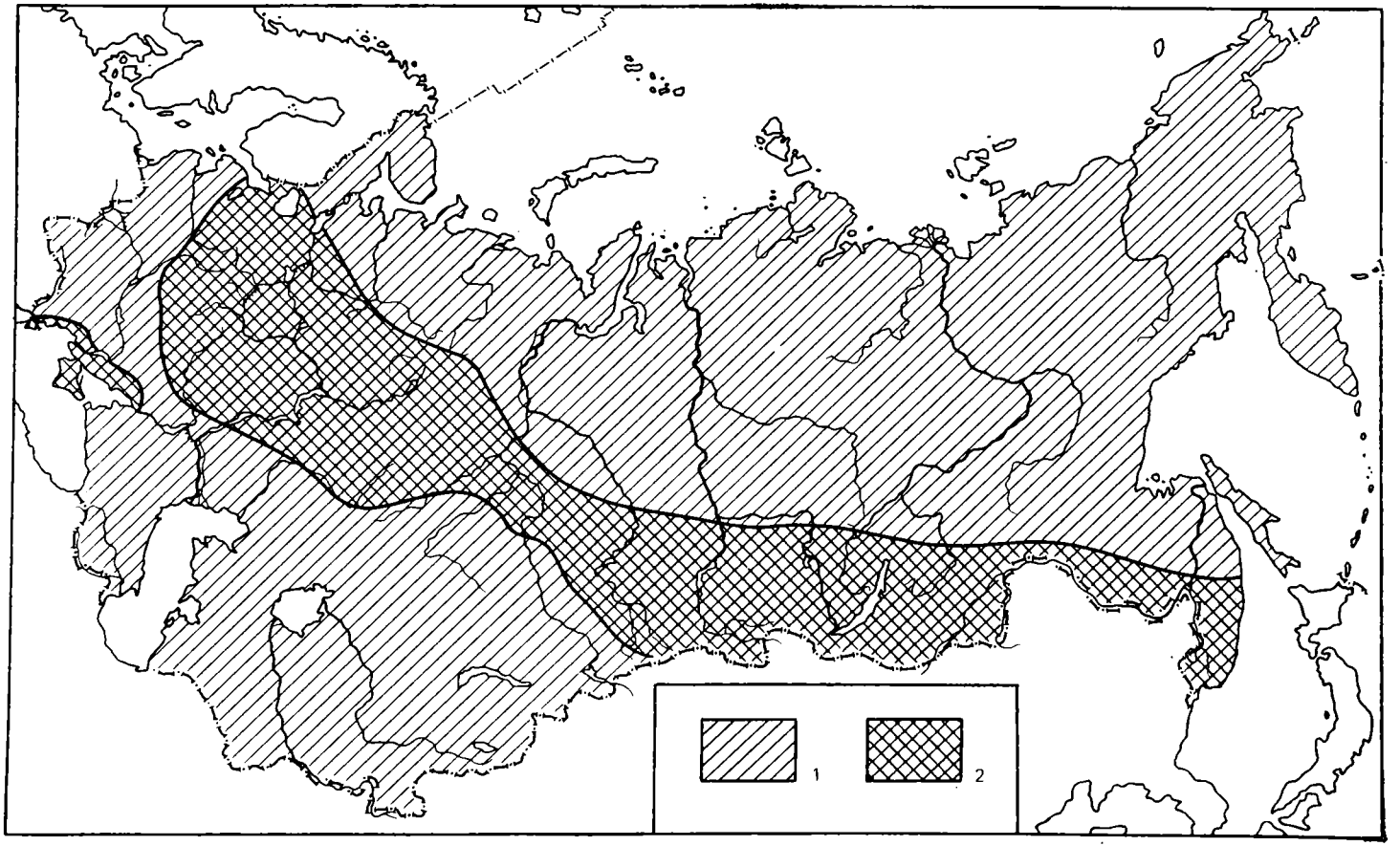

Fig. 14. Classification of recreational regions according to number of accommodations at Young Pioneer camps per 1,000 population (compiled by L. S. Filippovich).
Symbols see Fig. 13.

The distribution of work-and-rest camps follows the same pattern as that of Young Pioneer camps. Most of them (75 per cent) are located in Zone II—the zone of large industrial cities and developed agriculture (Table 4). Sixty-two per cent of the country's work-and-rest camps are located in the Central, Volga, Dnieper-Dniester and the Western regions where half of the country's population lives, with the Central region containing the largest number of camps (20 per cent). There are significantly fewer camps in Zone III, where the population is also considerably less.

There is also a link between the particular areas of camp sites and available work (mainly agricultural and construction), on the one hand, and urban agglomerations, i.e., areas with the greatest demand for such activities, on the other. The presence of rivers, lakes, seas and wooded areas is highly important when choosing sites for such camps.

Children's excursion and tourist centres and tourist hostels began to develop rapidly from the early 1950s. At the present time there are 200 children's excursion and tourist centres in the country with 300 children's tourist hostels that are under the supervision of the Ministry of Education of the USSR. Their task includes the organisation of educational excursions, field trips, and travel.

During recent years, the number of foreign tourists has increased rapidly. Foreign tourists are interested most of all in historical and architectural sites, the culture and art of the peoples of the USSR, the Soviet way of life and the achievements of the USSR in the building of socialism and communism. During the five-year period (1971-1975) approximately 15 million tourists from 153 countries visited the USSR. At the present time the USSR is one of the 15 leading countries of the world with regard to the number of foreign tourists (over 4.5 million). Foreign tourism has developed into a separate branch of the Soviet national economy.

According to the plan for 1981-1990, the number of foreign tourists coming to the USSR will almost double each five years. New hotels are being constructed in many cities to accommodate them. The managing organ of this branch of tourism is the all-Union shareholding society, Intourist, which is the Chief Administration of Foreign Tourism of the Council of Ministers of the USSR. There are over 100,000 persons catering to foreign tourists.

Tourist streams are unevenly distributed over the territory

of the USSR. During pre-war years, foreign tourists visited the following large cities: Moscow, Leningrad, Kiev, Odessa, Yalta, cities on the Black Sea Coast of the Caucasus, Tbilisi and a number of others. By 1966-1972, five regions of foreign tourism have developed in the USSR: Central (zone of educational tourism—centres connected with the life and work of Lenin, architectural monuments and architectural and historical ensembles of old Russian cities, centres of arts and crafts), Black Sea (recreational zones), Central Asian (zone of educational tourism—the architectural monuments of Samarkand, Bukhara, Khiva and others), Caucasian (zone of educational tourism, health resorts and sports) and the Siberian transit zone of educational tourism. During recent years the Baltic and Volga (Kazan, Ulyanovsk and Volgograd) regions of foreign tourism have been added to those mentioned above. All the regions have a total of approximately 600 tourist itineraries to offer. The largest per cent of the visits are to the Central region.

In 1976 Intourist agencies received foreign tourists in 120 cities, among which were the large tourist centres of Moscow, Leningrad and Kiev, receiving over 50 per cent of the foreign tourists, the capitals of all the Union Republics, the Hero-Cities, important administrative, economic and cultural centres, places of historical interest and resorts (Sochi, Yalta, Odessa, Pitsunda, Sukhumi, Kharkov, Samarkand, Bukhara and others). Transit tourism is also developing across the European part of the USSR, Siberia and the Soviet Far East with visits to Novosibirsk, the Lenin Memorial Complex in Shushenskoye, Irkutsk, Bratsk, Khabarovsk and other cities.

The demand for sights and places of educational value and for areas with a diversity of scenery (including exotic) and favourable climatic conditions is a crucial factor in shaping the Intourist network.

Sputnik, the Soviet travel bureau for international youth tourism, was established in 1958 and has 200 branches in the cities of the USSR. Sputnik arranges trips for young people to the USSR from 70 countries of the world, as well as the travels of young Soviet tourists within the USSR and to other countries. It has over 20 well-equipped camps and hotels in cities and 500 itineraries within the country covering a great number of places of general and educational interest. New funds are allocated each year for the development of the

Sputnik network and its facilities. The accommodation capacity is increasing in camps and hotels, new hotels are being designed and constructed in a number of cities with over 20 million rubles allocated for this construction during the 10th Five-Year Plan.

During the five-year period (from 1971 to 1976), 613,000 young tourists came to the Soviet Union from socialist, developing and capitalist countries. They visited over 100 cities, where they became acquainted with architectural, historical and cultural monuments, and the politics and economy of the Soviet Union. They rested together with the Soviet young people at international youth camps located at the most picturesque places of the Caucasus, Crimea, Baltic area, Transcarpathia, near Moscow and in the Volga area, and cruised along the Danube, Mediterranean and the Baltic seas.

Sputnik is in charge of tourist and excursion activities of the young people of the USSR (hiking and health-building camps, children's tourist hostels, work-and-rest camps). It also arranges excursions for schoolchildren to memorial places of the Revolution, those of military and labour fame, to places connected with Lenin, various itineraries and hikes during free days, and trips on excursion ships. Together with hiking clubs, Sputnik branches arranged holiday tours on free days for 400,000 young people during 1973-1975. Three hundred thousand persons received free trips within the USSR and to other countries for their outstanding work.

Scenery, places of educational interest and a good climate are leading factors in the development of the network of international youth tourism.

Rooming services and room-letting agencies help in finding lodgings when there is a shortage of accommodation at specialised recreational institutions. An extensive network of rooming services has been created at seaside and other resorts.

A considerable number of persons (60-70 per cent) resting at seaside resorts apply to the rooming services.

National parks are a new type of recreational facilities in the Soviet Union used for organising mass leisure pursuits in surroundings of nature. At the present time national parks have been created in the Western region (in the Soviet Baltic Republics) and research and design work is being carried out in this field in the RSFSR, the Ukraine, and

in other Soviet republics. In addition, it should be noted that at present many reserves and sanctuaries (for example, Teberda) also function to a certain extent as national parks because hiking routes and excursion itineraries run across their territory.

Rest homes of writers, actors, artists, musicians and architects fulfil recreational functions only partially, because their basic function is to create suitable conditions for persons occupied in creative work, primarily in the field of fine arts, music, literature, etc. Such homes have been established both in the specialised recreational regions (the Black Sea Coast of the Caucasus and the Crimean) and in regions located in the main settled zone of the Soviet Union (North-Western, Western, Central, etc.).

Zone I — the South of the European Part of the USSR

Embracing the south of the Ukraine, the Northern Caucasus, the Lower Don and the Transcaucasian Republics, this zone occupies approximately 2.2 per cent of the total area of the USSR. Over 12 per cent of the population of the country lives here. The closeness of this zone to the Black Sea and the Sea of Azov with their warm climate, the picturesque Caucasian Mountains and the Crimea and to developed industrial areas has led to its intensive recreational use. This zone provides over 39 per cent of all available accommodation at sanatoria, 34 per cent at rest and holiday homes, 39 per cent at tourist hostels, 70 per cent at mountaineering camps, and 56 per cent of the national tourist itineraries. It is also characterised by a high concentration of the national medical and health-building institutions.

Among the medical and health-building institutions for adults, sanatoria and holiday homes with medical treatment (38 per cent of the available accommodations) and rest and holiday homes (23 per cent) occupy the leading place in the number of persons accommodated. A high concentration of recreational institutions has led to the development of such recreational agglomerations in this zone as the Caucasian Mineral Waters, Greater Sochi, and Greater Yalta.

The flow of vacationers to this zone from other zones is continually increasing thanks to the rising material standards of Soviet citizens, the development of transportation facili-

ties, more free time, favourable natural conditions and a well-developed recreational infrastructure. At the same time the residents of the neighbouring urban agglomerations (especially in the south of the Ukraine) use this zone for short vacations as well.

The problem of rational utilisation of recreational resources of this zone has become more acute. At present there is a lack of good beaches and many areas suffer from fresh water shortages and suitable construction sites. Service personnel and its off-season employment is also a problem growing in proportion. The capacity of this zone could be increased substantially with the development of the Caspian and Azov seaside areas.

The Caucasus as a Territorial Recreational System

The Caucasus is a developing territorial recreational system. On a territory of 613,000 sq km there are 300,000 available accommodations (approximately 20 per cent of all the country's accommodations) at sanatoria, rest homes, recreation centres and tourist hostels, and 125 national tourist itineraries (approximately 40 per cent of the country's total). The Caucasus is the Soviet Union's principal centre of mountain climbing and skiing. Specialised airports (Adler and Mineralniye Vody) are connected with almost all of the large cities of the country, and a wide network of railway lines links the Caucasus with practically all parts of the Soviet Union.

With a population of over 28 million, the Caucasus is also one of the most densely-populated areas of the country. The population of four cities of the Caucasian recreational system has reached or is approaching the one-million mark (Baku, Tbilisi, Yerevan, Rostov). Local residents spend their short and long vacations in the foothills of the mountains attracted here by their favourable climatic conditions.

As a recreational system, the Caucasus specialises in organising medical treatment at sanatoria, health-building vacations at seaside resorts and in areas suitable for skiing and mountain climbing, and offers a wide range of excursions. The uneven distribution over this territory of a wide spectrum of recreational institutions makes it possible to establish five major recreational regions (Fig. 15): the Black

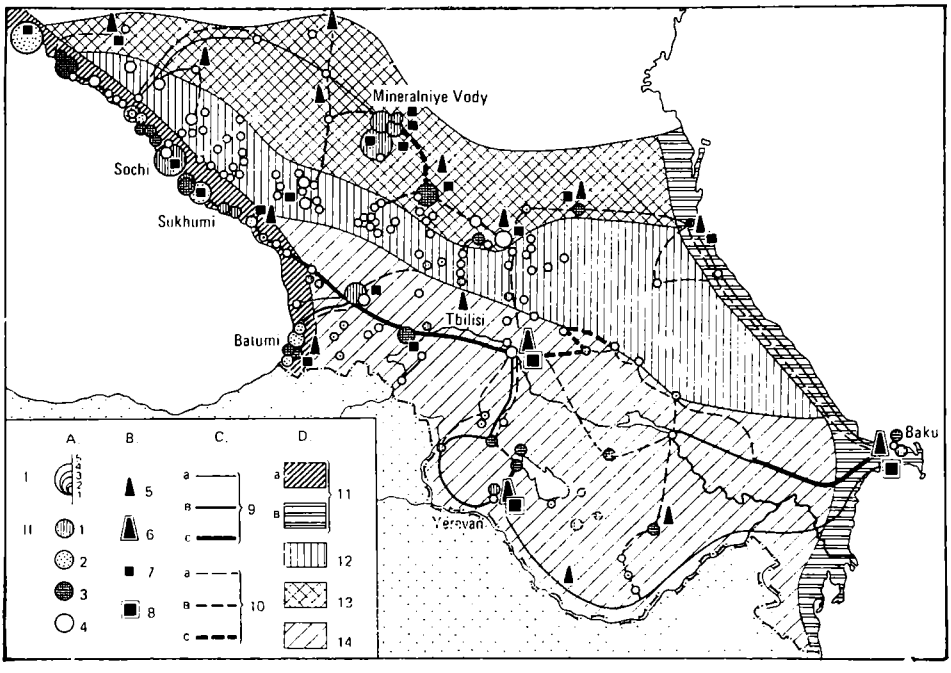

Fig. 15. Recreational development of the Caucasus (compiled by E. N. Lisichek).
A—recreational institutions. I—number of institutions at one point: 1—1; 2—2-4; 3—5-9; 4—10-14; 5—>15. II—predominant type of institution: 1—sanatoria; 2—rest homes and holiday homes; 3—mixed types; 4—tourist hostels. B—management bodies. Councils for tourism and excursions: 5—territorial and regional; 6—republican. Councils for managing trade union resorts: 7—territorial and regional; 8—republican. C—tourist itineraries: 9—railway, 10—bus; a—1-6 itineraries, b—7-9 itineraries, c—10 and over itineraries. D—recreational regions: 11—seaside health resorts: a—Black Sea Coast of the Caucasus, b—Caspian; 12—Caucasian Mountain resorts (skiing and mountaineering); 13—North-Caucasus medical treatment; 14—Transcaucasian health resorts and educational tourism.

Sea Coast of the Caucasus and the Caspian (health-building), the North Caucasian (medical treatment), the Caucasian Mountains (skiing and mountain climbing), the Transcaucasian (health-building and excursions).

The number of accommodations at sanatoria constitutes 42 per cent of the available accommodations of the recreational institutions of the zone, or approximately 25 per cent of the total accommodation capacity of the country's sanatoria. The majority of the sanatoria function all the year round. The Caucasian agglomeration of mineral water

spas has developed in the foothills of the Northern Caucasus rich in mineral springs.

Holiday and rest homes and recreation centres are institutions of a health-building type. They constitute 35 per cent of the recreational institutions of the zone and have accommodations for 106,000 visitors (or approximately 11 per cent of the country's total). Two of the largest recreational agglomerations—Greater Sochi and Gelenjik-Tuapse—have developed on their basis on the Black Sea Coast of the Caucasus.

Vacations with sports activities are organised by tourist hostels with over 21,000 accommodations (approximately 10 per cent of the country's total) and mountaineering camps. Out of the 125 itineraries 88 are intended for sportsmen (78 for mountaineers and 10 for skiers). The Caucasian Mountains region specialises in sports recreation.

Recreation involving educational excursions is provided by tourist hostels located in the cultural, historical and industrial centres of the Caucasus, primarily in Transcaucasia. Forty-one bureaus arrange excursions and travel in this zone (Fig. 16). Twenty-five itineraries link the North Caucasus, the Caucasian Mountains and the Black Sea Coast of the Caucasus; 12—the North Caucasus and the Caucasian Mountains.

Each recreational region caters to a specific age bracket. Thus, in Dombai, the well-known mountain resort in the Caucasus, about 51 per cent of the vacationers are young people aged from 16 to 24. On the other hand, in Kislovodsk persons over 40 constitute 50 per cent of the vacationers who undergo medical treatment at its sanatoria. In Anapa, the well-known children's resort, over 45 per cent of those who are vacationing are from 30 to 39. These are primarily parents who come here together with their children. Those between 25 and 39 make up 56 per cent of the vacationers who come to Sochi with their families.

The length of stay of the vacationers is not the same in various recreational regions. Usually they stay from 12 to 30 days (the length of stay afforded by rest homes, tourist hostels or sanatoria) and over 30 days at children's resorts and the resorts of Kislovodsk and Yessentuki. Most of the people who spend their vacations at health-building resorts stay there for a period less than 20 days.

The Black Sea Coast of the Caucasus enjoys the highest

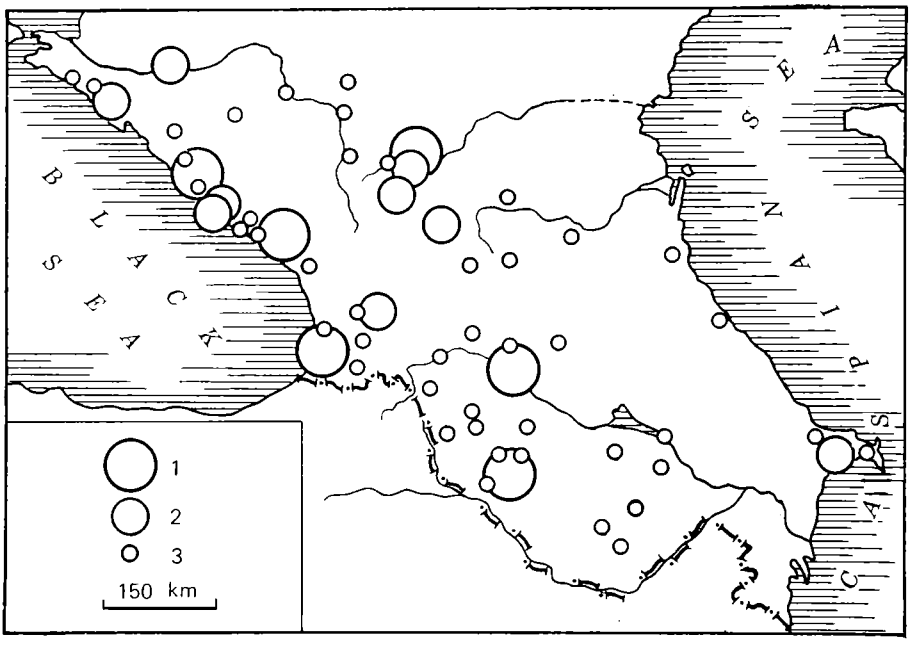

Fig. 16. Main excursion centres of the Caucasus (compiled by E. N. Lisichek).
Number of visitors accommodated: 1—1 million, 2—from 500 thousand to 1 million; 3—<500 thousand.

demand for its recreational facilities, though a fairly large number of vacationers prefer Transcaucasia or Caucasian Mineral Waters located in the mid-mountain areas of the Caucasus having comfortable weather in summer. The Caucasian Mineral Waters ranks second in the preferences of the vacationers from Central Asia with its arid climate. Vacationers coming from the Soviet Baltic Republics prefer the less urbanised northern parts of the Black Sea Coast of the Caucasus (Table 6).

Mineral waters, curative muds, comfortable climate, the sea, mountain air and the beautiful scenery are components of medical treatment at the sanatoria of the Caucasian recreational system. For recreation involving sports activities use is made of the mountain slopes and mountain peaks, mountain passes, mountain trails, and mountain rivers. Educational tourism is based on the use of natural landscapes and cultural-historical sights.

The mineral waters of the Caucasus are represented by the following basic types: 1) carbonate, 2) thermal nitrate

alkaline of various ionic composition (for the most part sodium), 3) nitrate, nitrate-methane and methane.

The climatic conditions are conducive to effective climatic medical treatment. The longest comfortable period for

Table 6

The Distribution of Vacationers over Places of Rest[1]

Place of rest	Places of residence of vacationers (in %%)									
	Baltic Republics	Central region	North European part of the USSR	Ukraine and Moldavia	Transcaucasia	North Caucasus	Volga area	Central Asia	Urals and Siberia	Soviet Far East
Greater Sochi . .	17.2	54.6	40.7	51.9	41.9	77.6	42.7	48.1	62.9	42.9
Anapa . . .	15.3	11.1	40.4	7.4	2.7	6.1	15.6	7.3	13.8	19.1
Gelenjik-Tuapse . .	57.8	26.9	13.9	27.3	11.1	13.4	33.3	19.2	13.5	18.0
Caucasian Mineral Waters	9.7	7.4	5.0	13.4	44.3	2.9	8.4	25.4	9.8	20.0
Total . . .	100	100	100	100	100	100	100	100	100	100

[1] Compiled by V. Azarov according to the data of the Moscow Institute of the National Economy named after G. V. Plekhanov.

health-building activities is found in the Black Sea subtropical area. In winter the climate of the mountain regions makes it possible to go in for skiing (the snow cover at 2,000 metres above sea level stays for 5 months).

The topography is suitable for tourist hikes and mountain-climbing expeditions of all categories of difficulty. Among the peaks of the Caucasus there are 9 peaks of the sixth category of difficulty.

The beaches of the Black and Caspian seas extend for almost 900 km. The pebble beaches of the Black Sea are under intensive recreational pressure while the sandy beaches of the Caspian Sea are as yet an undeveloped reserve zone.

In areas occupied by recreation centres, spas and sanatoria, vegetation, including a great deal of exotic plants, has been largely planted. Mountain resorts, skiing

centres and areas in close proximity to seaside resorts are noted for their indigenous forests of beech, pine, spruce and fir.

Local rivers are typical mountain rivers with exceedingly rapid currents and are beginning to be used for water skiing.

The Caucasus has a variety of ancient cultural and historical monuments to offer the sightseer. Armenia, Georgia and Azerbaijan are famous for such ancient sights. Excursions are arranged to places connected with the history of building socialism, to the memorials of the heroic defence of the Caucasus during the Great Patriotic War, to areas of local arts and crafts, and numerous memorial museums of literature and historical-cultural museums.

A great variety of natural, cultural and historical features makes for various recreational activities during vacations and prolongs the recreational period.

Rest and holiday homes along the Black Sea coast are grouped together to form separate resort villages and towns with a developed public transport system. A considerable part of the coast is an urbanised strip with many parks and gardens.

In the high mountains of the Caucasus hiking centres and mountaineering camps, which are served by regular bus lines or can be reached on foot, are open the year round (in winter they function as skiing resorts). During the last decade cable roads and chair lifts have been installed there.

A dense network of roads and railways (about 16 km of railways and 60 km of motor roads per 1,000 sq km) promotes tourism by car or by rail in Transcaucasia. There are such specialised recreational seaports as Sochi and Sukhumi, and a special cruising fleet has been created. The role of the airports that service the vacationers is increasing. The urban transport system is developing, especially in the recreational agglomerations of Greater Sochi and the Caucasian Mineral Waters.

A whole range of engineering installations preserve the old and create new recreational resources. In this respect hydrotechnical installations are highly useful in protecting natural beaches (which is a crucial problem on the Black Sea coast), and in creating man-made beaches and swimming pools.

The national economy of the Caucasus plays an important role in providing for the recreational institutions.

Agriculture produces a significant amount of vegetables (over 10 per cent of the total national production), fruit and berries (approximately 15 per cent of the total national production), and grapes (over 40 per cent of the total national production). Transcaucasia is the main subtropical cultivation area in the USSR. The principal supplier of meat and milk (8 and about 6 per cent of the total national production respectively) is the North Caucasus. It also ranks first among the large economic areas of the USSR in poultry farming.

The food industry (about 10 per cent of the total national production) supplies canned fruit and juices (about 30 per cent of the total national production) and mineral waters (over 40 per cent of the total national production).

Local arts and crafts and the manufacture of souvenirs are concentrated around resort towns and along tourist itineraries. There are also factories producing tourist equipment and equipment for recreational institutions. Local civil engineering with its modern equipment and skilled personnel, supported by a powerful local building materials industry, conducts its work on a vast scale.

The activities of the recreational network are directed by 3 republic, 2 territorial, and 10 regional councils for tourism, 41 excursion bureaus, 3 republic, 2 territorial and 5 regional councils of trade unions for the management of health resorts. There are 11 territorial health resort councils in operation that are located directly at the resorts.

In the Caucasus, in addition to 3 republic institutes of resort treatment and physical therapy, there are another 2 institutes located at the health resorts of Pyatigorsk and Sochi. A recreational research laboratory has been set up at the Stavropol Pedagogical Institute. Newspapers containing necessary information for vacationers are regularly published. Special medical schools train service personnel for the sanatoria, and highly-qualified personnel for the tourist network are trained at Rostov University.

The Health-Building Region on the Black Sea Coast of the Caucasus

The region, stretching along the Black Sea Coast of the Caucasus from Anapa to Batumi, represents an almost continuous zone of resort towns and resort settlements (including

Anapa, Tuapse, Greater Sochi, Sukhumi, Batumi and others) connected with each other by a railway line, a motor road and regular sea passenger lines and cruising ships. The northern part of the region is located within the limits of Krasnodar Territory and the southern—in the Georgian SSR.

This is one of the most developed recreational regions of the country and has the largest number of accommodations at its recreational institutions. Nine per cent of the total national accommodation capacity goes to sanatoria, 15.5 per cent to rest homes, 6.3 per cent to recreation centres and 7.8 per cent to tourist hostels, while the population of the region makes up 1 per cent of the entire population of the USSR.

For the most part, the recreational institutions serve vacationers coming from other parts of the country, including the most distant ones—Siberia and the Soviet Far East. The region receives approximately 7 million tourists a year.

There are large resort towns and settlements in the region with the leading place occupied by Greater Sochi and Anapa. The Black Sea Coast of the Caucasus is one of the most promising regions for new recreational development. Large-scale construction is planned for the future in Gelenjik and its environs, second in size after Greater Sochi among the Black Sea resorts of the RSFSR. Recreational complexes are designed to be constructed on the Black Sea Coast of Georgia.

Specialists in the field of resort studies and resort designing give a great deal of attention to the territorial organisation of recreation on the Black Sea Coast of the Caucasus. The workers of the Sochi Resort Treatment and Physical Therapy Research Institute conduct comprehensive studies of recreational resources; they examine specific adaptation patterns to the climatic conditions of the Black Sea area, and evolve principles of organising recreation.

The principles and criteria of planning resort towns and settlements of the region is another important problem. The planting of trees and gardens and the use of forests for recreational purposes are problems of crucial importance to the Black Sea coast. Many questions connected with the study of recreational resources of one of the parts of the region (Abkhazia) were studied by specialists of the Central Research Laboratory of Tourism and Excursions. Sukhumi was the object of sociological research aimed at estab-

lishing the factors shaping the contingent of vacationers at a seaside resort.

Two types of recreational activity are conducted in the region most effectively: medical treatment and health-building. The first type is characterised by an even distribution of vacationers throughout the year. The second, by a sharp influx of vacationers during the bathing season (when the temperature of the water is +18°C and higher) which usually lasts from the middle of May to the end of October. Sharp drops in the temperature of the water (up to 15° a day) may be caused by choppy seas. During the bathing season, the roughness of the sea does not usually exceed 2-2.5 points. Winter is very mild along the entire coast. In this respect the European part of the USSR has no other place similar to this region. In contrast to other southern seaside regions a significantly larger amount of precipitation is characteristic for the Black Sea Coast of the Caucasus (especially along the Georgian coast where the average annual figure for Sukhumi is 1,390 mm and for Batumi 2,318 mm with the maximum precipitation occurring in the warm period of the year).

The basic recreational resources of the region are the beaches. Today on the territory of the resort towns—Greater Sochi, Anapa, Tuapse, Gagra, Sukhumi and the settlements that adjoin them—these resources have been put to use on a vast scale.

There are also rich balneological resources in the region. The most widely used mineral waters here are those of the Matsesta Spa containing hydrogen sulphide sodium chloride (with varying degrees of mineralisation and with varying concentrations of hydrogen sulphide), lithium, nitrogen and small amounts of carbon dioxide. There are some relatively small mineral springs in Abkhazia, near Sukhumi (sodium-calcium nitrate sulphate-chloride, soft hydrogen sulphide methyl, slightly radioactive), and in Ajaria (thermal soft sodium sulphide-chloride-hydrogen-carbonate).

The resources of curative muds are concentrated in the northern part of the region. Silt and silt-and-clay muds from Chemburg Lake and those brought from Golubnitskoye Lake are used for medical treatment at Anapa and Gelenjik.

Favourable climatic conditions are conducive to various sports activities. The roads of the region are often used for

bicycle races and other competitions. Aquatic sports are taken up on a vast scale here.

The region has a number of sights that represent an interest for educational tourism. These include sights of architectural interest—ruins of the Iverian fortress, the Novy Afon Monastery, the Museum of Regional Studies, etc. The ape nursery, numerous arboretums, the Institute of Tropical Cultures, citrus tree plantations, etc. are of interest in Sukhumi. The unique Novy Afon Cave is visited daily by approximately 2,000 persons.

Local agriculture specialises in valuable subtropical plants. There are industrial centres such as Novorossiisk and Poti. Some of the cities are developing as multi-functional ones (Sochi, Sukhumi and Batumi). In other coastal towns and settlements various enterprises are set up for the construction and servicing of recreational institutions.

On the Black Sea Coast of the Caucasus there exist a recreational agglomeration of Greater Sochi and several large combines (Anapa, Tuapse, Sukhumi, and Gagra). At the present time two other agglomerations are taking shape: Abkhazia-Ajaria and Gelenjik-Anapa.

Greater Sochi consists of six large recreational combines (Lazarevskoye, Dagomys, Sochi, Matsesta, Khosta and Adler). Each of them is distinguished by its recreational functions and level of development. At the same time, they form a single entity representing an integrated territorial recreational system. This is manifested in their genetic unity and the use of a common complex of recreational resources, a predominance of health-building specialisation, a common transport network and geographic unity. One of the basic factors contributing to the formation of a single entity were the motor road and the railway line that run along the coastline. One of the largest airports in the USSR that serves all of the resorts of Greater Sochi is found at Adler. All of the combines are connected with each other by sea passenger lines and land routes. The combines have a common construction base; a common network of trade and purchasing agencies and material-technical supplies; common excursion grounds (Lake Ritsa, Krasnaya Polyana, Pitsunda, Sukhumi, the Caucasus Reserve and others); a local resort newspaper; a large scientific balneological centre—the Resort Treatment and Physical Therapy Institute.

Greater Sochi belongs to the traditional recreational re-

gions of the country—its development had begun by the end of the 19th century when the first summer villas and pensions sprang up here, and the Matsesta resort was opened (1902). Already in 1919, the district of Sochi-Matsesta was decreed to become a national resort. In the 1920s the first Soviet sanatoria were constructed at Sochi—a sanatorium-hotel that could accommodate 150 vacationers and the Mountain Air sanatorium with accommodations for 100 visitors. During the 1930s the capacity of the health resort increased by almost nine times in comparison with 1913 (from 10,000 in 1913 to 86,000 in 1936).

Today Greater Sochi extends for over 140 km along the coastal zone with numerous sanatoria, holiday and rest homes, and Young Pioneer camps located on its territory.

The Sochi recreational agglomeration is the largest health resort complex in the country which serves over 2.5 million vacationers yearly. Its medical-treatment institutions receive over 300,000 patients yearly. The resort has 300 medical consulting rooms, 32 hydropathic establishments, 7 therapeutic mud-baths, 17 winter swimming pools, etc. Over 2.5 million excursionists visit Sochi yearly, and over 100,000 vacation at tourist hostels and at sports camps. Many sportsmen receive their training here (football players, cyclists, athletes and others). In addition, it is a prominent cultural centre of the country—song festivals (for example, the Red Carnation festival) and spring sports tournaments are held here yearly.

Greater Sochi is a popular place for short vacations of the residents of Krasnodar Territory, especially its inland cities (Krasnodar, Maikop, Armavir, Kropotkin and others). Residents from the Transcaucasian republics also vacation here.

Recreational services are a leading branch of the economy. Over 90 per cent of the able-bodied population of the region is employed at the large recreational-economic complex that has emerged and keeps developing here. The medical personnel in Greater Sochi makes up 28,000. Over 10 per cent of the local population is employed in medical services, approximately 8 per cent in trade and public catering, about 5 per cent in transport, over 6 per cent in the food industry, a little over 4 per cent in the field of culture and education, and a little over 4 per cent in housing and utilities, and approximately 6 per cent in construction work. The vast

network of public catering establishments services over 32,000 people at a time.

With their common recreational specialisation of the economy, the resorts of Greater Sochi differ from each other by their recreational functions. Thus, while at the resorts of Sochi, Lazarevskoye, Dagomys and Adler prophylactic functions prevail, medical-treatment institutions are concentrated at Khosta and Matsesta.

Vacationers from various parts of the Soviet Union come to the resorts of Greater Sochi: 18 per cent come from the Central region, including Moscow, 8 per cent from the north-west of the European part of the USSR including Leningrad and the Baltic Republics, 12 per cent from the Ukraine, 8 per cent from the Transcaucasian Republics, 7 per cent from the North Caucasus, 18 per cent from the Urals and the Volga area and 15 per cent from Siberia and Central Asia. Approximately 77 per cent of the vacationers spend over 10 days at the resort. In contrast to the other seaside resorts of the USSR, this area is accustomed to a comparatively small degree for short vacations.

The most important natural resources made use of in Greater Sochi are the sea with beach facilities, the climate and mineral waters. The total area of all of the beaches of the Sochi coastline equals 160 ha or 12,200 sq km. In recent years, work has begun on the construction of artificial beaches. Thus, more than 6 km of artificial beaches have been created on the stretch between Tuapse and Adler. The area of the beaches is distributed unequally: 20 per cent in Lazarevskoye, 2.2 per cent in Dagomys, 32.2 per cent in Central Sochi, 1.5 per cent in Khosta and 44 per cent in Adler.

The development of resorts influences the formation of other branches of the economy, leading, for example, to substantial changes in the structure of local agriculture. The organisation of state farms specialising in fruit and vegetable growing and stock breeding dates back to 1947. Greenhouses are also extensively developed. For example, there are 12 ha under greenhouses, half of which are mechanised, at the Adler fruit- and vegetable-growing state farm, which provides the resorts with fresh vegetables. The Adler broiler factory delivers meat and eggs, and the local trout farm, fresh trout. The Yuzhniye Kurorty large flower-growing state farm delivers approximately 4,000,000 flowers.

At present, the Abkhazian ASSR is the most developed

from a recreational point of view. Abkhazia possesses the most valuable natural resources along the Black Sea Coast of the Caucasus, one of which is its climate. Here the area of the beaches suitable for recreational purposes exceeds 280 ha. Forty per cent of the sanatoria, rest and holiday homes and 50 per cent of the available accommodations at the sanatoria of Georgia are concentrated in Abkhazia.

At the present time, large recreational combines of the USSR (Sukhumi and Gagra), as well as the popular resorts of Batumi, Gudauta, Novy Afon, Pitsunda and others function here. The future development of this region is ensured by the extremely valuable recreational resources of the Black Sea Coast of the Caucasus and primarily the favourable conditions for bathing.

Gagra is another highly-promising recreational centre on the Black Sea coast. It is one of the oldest and most developed resorts of this part of the region, with approximately 30 sanatoria, rest homes, holiday homes and tourist hostels. Local mineral springs will make it possible for a number of seaside resorts (Sukhumi, Sanapiro and Gagra) to switch over to a balneo-climatic specialisation.

Pitsunda, another popular resort on the Black Sea coast, is developing at a rapid rate. In 1967 a complex of hotels with an accommodation capacity of 2,852 places was built on the Pitsunda Cape, beside a grove of relict Pitsunda pine trees. During the next 5 years, over 240,000 persons vacationed here. Pitsunda can serve as an example of how to overcome all the problems of the recreational development of the Black Sea coast. These include reinforcement of the beaches and protection of the unique vegetation along the Black Sea coast. Valuable forests are to be found not only in Pitsunda but also in other regions of Abkhazia: the Kodori and Bzyb forest areas famous for their beech and fir stands, and the Ritsa and Myussera nature reserves.

The crucial problems that face recreational planners in their development of new territories are the creation of the infrastructure and the optimal combination of recreational institutions and agricultural production, since the building of new resort complexes requires new lands some of which, as often is the case, are already used for valuable subtropical plants. A relatively small portion of the coastal zone between Abkhazia and Ajaria (Kolkhida) is actually not used for recreation. The town of Poti functions mainly as a sea-

port. In the future, when full-scale land reclamation work is undertaken it will be possible to develop seaside resorts here as well. This has been taken into account in the regional planning project for the Black Sea Coast of Georgia. This project envisages the development of the coastal zone and the adjoining hinterland. It is also planned to found two natural parks here.

The North-Caucasian Medical-Treatment Region

Mineral springs and a comfortable warm mid-mountain climate served as a basis for the development of this region. Sanatoria make up 84 per cent of the region's recreational institutions. The proportion of year-round institutions is high (81 per cent). Excursion services are extensively developed.

This recreational agglomeration of the medical type includes 4 resort towns (Kislovodsk, Pyatigorsk, Yessentuki, Zheleznovodsk) and the city of Mineralniye Vody. Its unity may be explained by a common situation with regard to the principal regions of recreational demand and its compact location (30-60 km); the unified Mineralniye Vody transport system; a common construction base; common supply of food products (various farms and broiler factories, large trade and purchasing agencies); transport communications, connecting the resort towns; common excursion grounds (Dombai, Mt. Elbrus area); a common research centre; and a common centre for training personnel.

The Caucasian Mineral Waters is one of the largest medical complexes with a high effectiveness of treatment (over 99 per cent of those receiving treatment at local sanatoria are released with marked improvement in their health) and an excursion and tourist centre (21 national itineraries pass through this region). Residents of the Transcaucasian Republics prefer to spend their vacation here, which may be explained by the lower summer temperatures in the mid-mountain areas in comparison with the other localities. The Caucasian Mineral Waters is a zone for short vacations and one of the cultural centres of Stavropol Territory.

All of the resorts of the Caucasian Mineral Waters may be classified as balneological, i.e., based on mineral springs and curative muds. Pyatigorsk specialises in the treatment

of the digestive and motor organs as well as nervous, gynecological and skin diseases. Kislovodsk specialises in the treatment of cardiovascular diseases, while diseases of the digestive organs are treated mainly at Yessentuki and Zheleznovodsk.

Excursions from one resort town to another are organised quite extensively. Kislovodsk and Pyatigorsk are the most interesting towns from this point of view. The beneficial role of excursions in medical treatment is generally recognised, and in recent years they are arranged to more distant areas. According to our estimates, each vacationer receiving medical treatment at the resorts of the Caucasian Mineral Waters makes six trips during his stay (which lasts 24 days on an average). Besides excursions to adjacent resort towns trips are organised to Teberda-Dombai, the foothills of the Mt. Elbrus and even to Tbilisi.

Over 1,600,000 vacationers visit the region yearly. Of them over 400,000 are accommodated at sanatoria and receive a complete set of services, over 200,000 are accommodated at hotels, holiday homes and private houses and also receive various types of medical treatment, and meals. Five hundred thousand arrive without advance reservations. They stop at hotels or else rent rooms from the local population and take their meals at specialised establishments. Mineral water, climate, dosaged walks along special routes, etc., are component parts of the medical treatment they get. In addition, every year over 450,000 tourists stop at the resort towns for 2 or 3 days.

This territorial recreational system with its specialised medical-treatment orientation is intended to serve men and women over 30 years old (who make up 87.2 per cent, including 49.4 per cent over 40).

Over 80 per cent of the vacationers spend more than 20 days at these resorts.

The basic natural recreational wealth of the region is its mineral springs. They have long been used for the medical treatment of various diseases. By the mid-1970s 130 mineral springs have been explored in the resorts of the Caucasian Mineral Waters, of which over 90 are being developed. Their total yield is 10,000,000 litres of water per day.

Pyatigorsk ranks first among the resorts in the number and variety of mineral springs. There are several types of mineral waters in Pyatigorsk: hot, warm and cold hydrogen

sulphide-carbonate calcium-sodium hydrogencarbonate-sulphate-chloride, for baths and drinking; hot and cold carbonate hydrogen sulphide-free, for drinking; ferrous carbonate-sulphide-free, for drinking; radonic, for baths and drinking; and sodium carbon dioxide hydrogencarbonate-chloride, for drinking.

The mineral springs of Kislovodsk are cold and contain carbon dioxide, hydrogencarbon and calcium sulphate. They are relatively homogeneous in their composition, differing in their sulphate content and are used for baths and drinking.

At Yessentuki all of the mineral springs are cold but differ in their chemical composition: sodium carbon dioxide, hydrogencarbonate-chloride, for drinking (No. 4 and No. 17); sodium carbon dioxide, hydrogen sulphide-hydrogencarbonate-chloride, for baths (No. 1 and No. 2); potassium-sodium hydrogencarbonate-sulphate, for baths (the Gaazo-Ponomarev spring), calcium-sodium sulphate-hydrogencarbonate, for drinking and baths (No. 20).

The springs of Zheleznovodsk do not differ a great deal from each other in their chemical composition but their temperature varies from 16° to 55°. They belong to the calcium-sodium hydrogencarbonate-sulphate type and are used for drinking and baths (No. 1, Slavyansky and Smirnovsky springs).

The silt muds from Tambukan Lake are widely used at the resorts for medical treatment. The lake is located 11 km from Pyatigorsk; its waters have a high concentration of sodium (up to 60 gr per litre), potassium, magnesium salts, and contain compounds of chlorine, sulphur and other elements.

The climate in the resort region is warm, and moderately continental. The average temperature in January is —4°C, the average temperature in July is +22°C. During 220 days the average daily temperature of the air is over +5°C. The number of days with a strong wind (over 15 m/sec) is 50. The precipitation is 450-600 mm a year (in summer it is 250-350 mm).

The region is subdivided into two parts according to their topographical features: 1) the south-western (near Kislovodsk) mid-mountainous, with deep valleys and gorges; and 2) the north-eastern with foothill plains and a group of laccoliths partially covered with forests which are a good nat-

ural site suitable for creating specialised paths and hiking trails.

Ploughed up steppe lands predominate in the region. The local parks and gardens have a great variety of trees, shrubbery and other plants. The forests and the parks, covering 7 per cent of the area, are highly essential for the formation of mineral springs and are widely used for organising walking activities.

The resorts of the Caucasian Mineral Waters group have a ramified network of public catering establishments (over 450), retail trade (over 800 shops), as well as cultural and everyday services.

Resort outpatient clinics, therapeutic mud-baths, hydropathic establishments, excursion bureaus, a specialised automobile transport service and other organisations are at the disposal of vacationers. If we take into consideration vacationers accommodated at sanatoria and those who have reservations for meals and treatment only, each of them is catered to by 1.8 person of the service personnel in Kislovodsk, 3.7 in Pyatigorsk, and 1.5 in Yessentuki and in Zheleznovodsk. Even if we take into consideration all of the vacationers, then for each person receiving medical treatment, there is more than one person of the service personnel. The personnel working at sanatoria and the personnel employed at the general resort institutions and open watering establishments are in the ratio of 1 : 5, which testifies to the fairly high development of the recreational infrastructure.

Over 25 specialised state and collective farms located close to the resorts supply them with fresh vegetables and fruit. Food and light industries provide the vacationers with food products and consumer goods.

The travel and excursion bureaus organise various excursions to numerous museums, cultural and historical monuments and natural sights. A philharmonia, two theatres, numerous cinemas and clubs entertain the vacationers.

The resorts are connected with other regions of the country by rail and air lines. A modern airport, linking this resort region with almost all the large cities of the USSR, has been built in the city of Mineralniye Vody.

Specially drilled wells and pipelines supply mineral water from distant springs to the resort cities. This mineral water supply system is being continually improved and developed.

There is a great deal of greenery everywhere. Special agencies are engaged in the upkeep of parks and gardens, and special footpaths for walking in the hills. Resort parks represent a splendid example of multi-functional anthropogenic landscapes which may be used for dosaged walks and for the location of various facilities (mineral baths, drinking fountains, museums, etc.).

Several artificial reservoirs for water-based recreation have been created close to the resort towns (for swimming and boating) which cover a total area of 105 ha. There are two gondola type cable roads.

All of the towns enjoy a special resort status. The AUCCTU territorial councils manage all trade union sanatoria and other resort facilities. The Pyatigorsk Institute of Resort Treatment and Physical Therapy has its clinics in each of these towns and plays an important role in organising medical treatment and recreation. The Stavropol branch of the Intourist has its office in Pyatigorsk. A specialised resort newspaper *Kavkazskaya zdravnitsa* (The Caucasian Health Resort) is published in Stavropol.

Caucasian Mountains Sports and Tourist Region

This perspective recreational region stretches along the axial part of the Caucasian Mountain Range. The basic type of recreational institutions are tourist hostels, connected with each other and the neighbouring Caucasian regions by a system of tourist itineraries. The principal skiing centres of the USSR with 25 per cent of the country's cable roads and chair lifts, as well as a large number of mountaineering camps (70 per cent of the country's accommodation capacity), are concentrated here. Thus, skiing and hiking in the mountains determine the national specialisation of this recreational region. It is expected that they will remain the leading recreational activities in the future as well.

The possibilities for development of the Caucasian Mountains is an object of research being conducted on a large scale at the Stavropol Pedagogical Institute, where a recreational laboratory was organised in 1975. The basic work of the laboratory is dedicated to the study of the natural recreational resources of the region, an analysis of the cross-section of the vacationers, the specific patterns of rec-

reational activities at mountain resorts, and description of local medicinal and geographical features. The organisers of recreation are engaged in the research on problems pertaining to the development of tourism in mountainous regions.

The State Institute of Town-Planning has prepared a project for the further recreational development of the Caucasian Mountains. Hiking in the mountains and skiing will remain primary functions. The western part of the region has been set aside for ski trips, the central for mountain climbing, and the eastern for recreation, medical treatment and educational tourism. In addition to the Dombai-Arkhyz region, 5 more zones for mountain sports and hiking activities will be created: in the foothill area of the Mt. Elbrus, the high mountains of Kabardino-Balkaria, Northern Ossetia and two in Daghestan. It is planned to accommodate from 3,000,000 to 4,000,000 vacationers per year. The construction of special highways will enable the vacationers in the mountains to reach the sea in 4 or 5 hours. This will promote further integration of the recreational regions and provide more links between the Caucasian Mountains and the other regions of the Caucasus.

The southern part of the Caucasian Mountains region is located largely on the territory of the Georgian SSR. The leading recreational activity here is hiking in the mountains in the summer. Most vacationers go to resorts in the mid-mountain area (1,000-1,500 m above sea level) where health-building and sports activities combine perfectly.

Since sports are a component part of practically all recreational activities, the percentage of young vacationers is rather high in this mountain region. The figure for accommodated vacationers of the 16 to 39 age bracket is 85-90 per cent in Arkhyz, Dombai and the Mt. Elbrus area in summer, while for the 25 to 39 age bracket it rises from 50 per cent in summer to 72 per cent in winter (in the Mt. Elbrus area), due to the improvements which have been made at the ski resorts and hiking centres.

In different seasons vacationers come from different places. In the summer 43 per cent come from the Centre and 41 per cent from the south of the European part of the USSR. Vacationers from the Asiatic part of the country make up the bulk of those staying in the eastern part of the region (Mt. Elbrus area). In the winter the percentage of vacationers

from Moscow and Leningrad sharply rises reaching 35 per cent and 25 per cent respectively.

At the same time the number of people that arrive in the winter from the neighbouring regions (Transcaucasia and North Caucasus for example) is relatively small (approximately 5 per cent). This testifies to the fact that mountain skiing is still most popular among the residents of large urban centres, primarily among such groups of the population as university students, engineers and technicians.

The principal recreational resources of the region are high mountains and forests. There are more than 10 peaks over 5,000 m above sea level and about 30 higher than 4,000 m. This makes it possible to conduct the most varied types of climbing activities—from those for beginners, connected with the training of young mountain climbers, to more difficult ones suitable for well-trained sportsmen.

Local natural conditions—snow cover (50-100 cm) stays for 4 or 5 and even 7 months (in the high mountains), as well as an abundance of sunny days and calm weather—promote skiing activities. But many such places are either avalanche-prone or small in area, which makes them unacceptable for developing skiing on a mass scale.

This region offers great opportunities for sports, health-building recreation and educational tourism. The vertical zonality of vegetation, a variety of landscapes in the eastern and western parts of the region, the intermingling of various forests and groves on the southern and northern mountain slopes, and the great number of mountain passes, at 2,000-3,000 m above sea level, free from snow in summer make it possible to develop these activities. There are unique architectural and cultural monuments here, such as the 10th- and 11thcentury Byzantine temples in Teberda, ancient Georgian monasteries, examples of traditional folk architecture in Svanetia, Northern Ossetia, Daghestan and other interesting sights.

The most favourable time for the development of these types of recreation is the warm period of the year. The daytime temperatures in the mountain valleys are similar to those on the Black Sea Coast of the Caucasus. However, the night-time temperatures in summer are quite low. Numerous passes giving access to the most distant corners of the mountainous country, swiftly-flowing rivers with rapids and deep gorges are the principal features of this area.

The natural conditions of the Caucasian Mountains present many difficulties for recreational development, caused by the turbulent summer floods, mudflows and snow avalanches at the end of winter.

The infrastructure—roads, engineering installations, etc.—is designed with due account of the rigorous weather conditions (storms and heavy snowfalls) and seismic hazards. At the same time, the abundance of sunshine and varied topography, offering a range of sites for structures and buildings of most diverse forms and shapes create favourable conditions for recreation. The region occupies one of the leading places in the country in number of facilities at the service of tourists (hotels, shelters, cabins, cable lifts, equipment for avalanche patrols and for rescue teams, etc.).

There are no railway lines on the territory of the region but they come close to it from almost all sides so that any point is removed from them no more than 150 km. The only motor road that crosses the region is the Voyenno-Gruzinskaya Highway. Two of the highways in the north-western part approach the passes—one from the north, the other from the south—but they do not connect with each other. The expansion of the network of highways of national importance running from the north to the south of the region and linking it with the sea shore, as well as the construction of railways across its central part are envisaged for the future.

A system of recreational combines has developed in the Caucasian Mountains. A leading place among them is occupied by Dombai, Arkhyz, and the Elbrus area.

Dombai is a territorial recreational system of a mountaineering type.

It is a national mountain-climbing and skiing centre as well as an excursion centre catering to residents of the North Caucasian and to those staying at the Caucasian Mineral Waters resorts. It is also used for short vacations by residents of the Kabardin-Balkar ASSR, Stavropol and Krasnodar territories.

The length of stay at Dombai for transit tourists ranges from 4 to 6 days. Dombai is the starting point for 15 radial itineraries including those to the Chuchkhuri and Sofrudji waterfalls, the Alibek glacier, etc.

Dombai offers mountain-climbing routes of all categories of difficulty. There are over 10 mountain peaks here of the

fifth category of difficulty and 11 mountain passes at a height of approximately 3,000 m above sea level (of the 1A-3A category).

The slopes of the mountains are used for skiing. Winters are mild here (with an average temperature of —5°C), the snow cover, settling at the end of November, stays for approximately 5 months, and there are some 150 cloudless days a year.

Frequent avalanches at the end of winter make it difficult to choose construction sites and lay out ski trails.

The most popular recreational activities are mountaineering and skiing. Mountaineering in Dombai follows a special schedule: 1st day—accommodation, acquaintance with safety measures; the following 1-2 days—excursions, sightseeing trips (natural, historical and cultural); 3-4 days—preparations; the following 3-4 days (or more)—the climb. On returning to the tourist hostel—a day of rest (walking, sports games).

Mountain skiers have a daily schedule (3-4 hours of skiing and amusements—cinema, dancing, etc).

Young people of the 16 to 29 age bracket make up a large proportion of the tourists (over 60 per cent). In the summer the figure for the 16 to 24 age bracket is 51 per cent and for the 25 to 39 age bracket, 39.5 per cent; in the winter, it is 41 per cent and 46 per cent respectively.

In Dombai there are good tourist hostels and hotels, homes of service personnel, a modern highway linking it with the resort in Teberda and with Severny Priyut (Northern Lodge), and a cable chair lift almost 1.7 km long. In addition, there are shops, catering establishments, and consumer services.

A territorial recreational system (mountaineering) is developing in Arkhyz. This mountainous region (approximately 750 sq km) is still a weakly specialised recreational territorial-economic system. A tourist hostel of the All-Union Central Council of Trade Unions here, four departmental tourist hostels functioning the year round and several seasonal camps are housed in Arkhyz.

Arkhyz is a national centre of tourism (3 national and 4 territorial itineraries, and 10 itineraries of various categories of difficulty for sportsmen who come on their own, cross the area); it is also a national centre of skiing and an excursion centre visited by residents of the North Caucasus

and vacationers staying at the Caucasian Mineral Waters resorts as well as a zone for short vacations of the residents of Stavropol Territory and the adjacent regions.

The length of stay at Arkhyz for tourists or hikers does not exceed 6-7 days. Some of the radial itineraries lead from Arkhyz to the valleys of the Psysh, Kizgich and Sofia, to the Baritnaya Ravine, the Sofia Lakes and the Sofia glacier, etc. The stream of vacationers to Arkhyz is 4 times fewer than to Dombai on account of the low level of development of the local material and technical base, its remoteness from the Nevinnomyssk-Teberda motor highway and a 20-km stretch of unpaved road.

Specially arranged tourist parties (30 per cent) and week-end excursionists (approximately 60 per cent) predominate among the vacationers. Just as in Dombai, there is a large portion of young people among these tourist parties, especially in winter (over 70 per cent are people of the 16 to 29 age bracket). In summer the number of persons aged over 30 tends to grow (up to 35-40 per cent). In winter residents of large cities predominate—those coming from Moscow and Leningrad account for 48 per cent. In summer their number decreases sharply. Residents of the Caucasus make up not more than 5.2 per cent in summer and 0.6 per cent in winter. The picture is somewhat different as regards tourists who come on their own—the bulk of them is from the North Caucasus, the lower Volga area, and the Ukraine (66-67 per cent).

Arkhyz is located in the upper reaches of the Bolshoi Zelenchuk River, at from 1,000 to 3,787 m above sea level, with its areas most suitable for development lying at 1,000-1,800 m. The passes across the Vodorazdelny Range lie at 2,800-3,000 m above sea level and lead to the Black Sea. In the north Arkhyz is separated from the foothills by the Peredovoi Range (over 3,000 m).

The geographic position of Arkhyz makes its climate ideal for recreation—a long period of ultra-violet radiation (300 days a year) and sunshine (up to 2,000 hours a year), and a small number of cloudy days.

Winters are mild (the average temperature in January is —5.2°C), and the snow cover stays for 114 days. An abundance of comfortable weather in winter reduces the total uncomfortable weather to 40-55 days a year.

The mountain lakes, of which there are approximately

80 in Arkhyz, are very beautiful. A quarter of all of the territory of Arkhyz is occupied by forests: deciduous (25 per cent), fir (40 per cent) and pine (30 per cent).

Many of the sights here are unique, including the ancient Alan site in Lower Arkhyz and the burial grounds in the upper part of the Krivaya Ravine, the Northern Temple of the 10th-11th century, and a fir grove (some trees are 800 years old) in the Kizgich Valley.

The construction of recreational complexes at Arkhyz began in the 1950s. Today there are 5 modern houses, a tent city of the tourist hostel of the All-Union Central Council of Trade Unions, and tourist hostels of the Zhdanov Factory of Heavy Engineering. In addition, during the summer several departmental recreation centres are open. In Lower Arkhyz a children's tourist hostel has its quarters in the fine stone buildings of a former monastery. The tourist hostels in the settlement of Arkhyz have their own electricity generating plants and utilities, as well as a common infrastructure (water supply, telephone-telegraph communications). In winter, cable lifts operate on the Lunnaya Polyana (Moon Glade) ski route. Avalanche patrols and rescue teams are stationed here.

A highway (51 km long) with an asphalt and metal surface joins the settlement of Arkhyz with the local district centre—the Zelenchukskaya Station.

The Transcaucasian Recreational Region

This region embraces three Union Republics: (Azerbaijan, Armenia and Georgia) with the exception of their sea coastlines and the high mountains of the Greater Caucasus. Its area is a little over 150,000 sq km and its population exceeds 12,000,000, half of which lives in cities.

This new recreational region specialises in providing medical treatment and organising educational tourism. Its medical functions are developing on the basis of the available balneological resources which made it possible to create such highly-specialised resorts as Tskhaltubo, Borzhomi, Djermuk and others. Scenic locations for sanatoria are typical of Transcaucasia as distinct from other recreational regions with highly-developed medical functions.

The region ranks third in the country in number of

national tourist itineraries and is one of the leading in the development of foreign educational tourism.

The region provides great opportunities for the development of medical treatment and leisure pursuits of all types with the exception of bathing. This deficiency combined with a large number of hot uncomfortable days explains stable seasonal migrations of local residents to the neighbouring recreational regions (North Caucasus, the Caspian and the Black Sea Coast of the Caucasus).

Problems of the recreational development of the region have been extensively studied in recent years, with the Academies of Sciences of the Union Republics taking an ctive part in the research work. A Scientific Council on Tourist and Resort Resources has been organised at the Presidium of the Academy of Sciences of the Armenian SSR.

Recreational research is being conducted at the Institutes of Geography of the Academies of Sciences of the Georgian SSR and the Azerbaijan SSR. The resort treatment and physical therapy research institutes and scientific-research and design institutes of the State Committee of Civic Construction and Architecture, with their seats in the capitals of the Union Republics, design individual projects and work out general patterns of recreational development. Various scientific centres study recreational pressures on the natural complexes of the region, the pollution of water reservoirs as a result of recreational activities and work out preventive measures.

The number of visitors from other republics is growing from year to year as does the number of foreign tourists.

There are over 20 travel and excursion bureaus in Transcaucasia, which cater to over 5,000,000 visitors a year. The largest of them are located in Tbilisi (1,500,000), Yerevan (about 1,200,000), Kutaisi (700,000), and Mtskheta (300,000).

Most of the local residents spend their summer vacations in the foothills or on the seashore, preferring Abkhazia, Ajaria and the Apsheron Peninsula with their favourable conditions for swimming and bathing. The problem of organising children's recreation has become very urgent in Transcaucasia, which ranks second (after Central Asia) in the number of young people. In Azerbaijan young people under 19 comprise 53.2 of the entire population; the figures for Armenia and Georgia are 49.4 and 32.2 per cent respectively.

There are various types of mineral waters in Transcaucasia similar to those for which Karlovy Vary, Zheleznovodsk and other spas are famous. These are thermal, slightly radioactive nitrate, chloride-hydrogencarbonate-sulphate, magnesium-sodium-calcic, weakly mineralised waters (Tskhaltubo); subthermal sodium carbon dioxide-hydrogencarbonate mineral waters (Borzhomi); sodium carbon dioxide-hydrogencarbonate-chloride and radioactive waters (Isti-Su, Djermuk).

Various types of muds are extensively used for medical treatment. Azerbaijan is famous for its unique naphthalane oil deposits. The Akhtala muds with such rare components as boron and bromine are put to use in Georgia. There are large deposits of medicinal peat in Armenia (near Lake Sevan).

A warm dry climate and an abundance of sunny days make it possible to organise year-round climatic treatment. In the west of the region, in the lower mountainous belt, the temperature of the air is above zero all through the year. In the vicinity of large cities of Armenia and Azerbaijan this is usually the case between March and November. The precipitation in the Transcaucasian region is considerably less than on the Black Sea Coast of the Caucasus. In the east of the region, it usually does not exceed 600 mm a year, while in the western part it is rather high. The annual hours of sunshine exceed 2,000. Climatic treatment is organised mainly in the middle reaches of the mountains (from 1,000 to 2,000 m above sea level), where small sanatoria and rest homes of republican significance are open from 4 to 8 months a year.

Hiking and mountain skiing are developing successfully here, with the skiing centres in Bakuriani (Georgia) and Tsakhkadzor (Armenia). The skiing season at Tsakhkadzor lasts up to 6 months. The precipitation level in winter is rather low and most of the time the weather is calm and sunny.

The Transcaucasian region affords wide opportunities for fishing, hunting and tourism. In organising these activities, great attention is devoted to the restoration and preservation of gaming resources. Favourable climatic conditions, beautiful scenery and rivers and lakes high up in the mountains are conducive to arranging various types of competitions and tourist hikes of all categories of difficulty. In Ar-

menia alone, there are about 100 lakes at a height of over 2,500 m above sea level. The best time to visit them is from June to September.

The region abounds in sites of cultural interest. Among them there are numerous historical monuments as well as modern structures. In Georgia one can visit the famous cave-city Vardzia which dates back to the 12th century and which has been turned into a park. Nearby are a fortress, a church and other architectural monuments. Widely known are the historical and architectural monuments of Mtskheta, the ancient capital of Georgia, Tbilisi (the churches of Anchiskhati, Metekhi, the cathedral and others) and its environs. Worthy of note are such modern structures, as the Palace of Sports, the Philharmonic Concert Hall and the Tbilisi Metro. There are 19 museums and a botanical garden in the city. The capital of Armenia, Yerevan, houses the famous Matenadaran library, the picture gallery with a rich collection of Aivazovsky's paintings and the house-museum of the artist Saryan. Beyond the city bounds there are the world-famous Echmiadzin, Garni, Gekhard and other ensembles. The ethnic peculiarities of the local people are of great interest.

Large resort complexes of national significance have been developed in this recreational region, the most famous among them being Tskhaltubo and Borzhomi. The majority of medical-treatment institutions function all year round and provide all the necessary services. This is also true of the tourist hostels, rest and holiday homes. There are many small-scale recreational facilities that function on a seasonal basis.

The great mobility of recreational streams is serviced by a well-developed automobile transport system: highways cover thousands of kilometres (there are many buses, taxies and private cars). The overall length of the railways approaches 3,000 km. All of the large towns and settlements have air links with Tbilisi, Yerevan and Baku, which in their turn are connected by air with the capitals of the Union Republics and with many other large cities of the country.

The recreational development of Transcaucasia presents many difficulties, which are explained by its position in a seismic zone (7-8 points) where there is a constant danger of snow avalanches and mudflows.

The Caspian Recreational Region

Stretching along the western coast of the warm Caspian Sea this region offers favourable prospects for developing recreational institutions with a medicinal function.

The total length of the coastal zone is 1,330 km (800 km in Azerbaijan and 530 km in Daghestan). The area of this zone on the territory of Azerbaijan is 3,500 sq km lying at from 0 to 100 m above sea level the well-developed sandy and shell limestone beaches are growing in area due to the gradual lowering of the sea level.

The number of days favourable for summer recreational activities ranges from 150 to 180, and the bathing season lasts from 120 to 150 days. Because of the north-eastern and easterly winds the comfortable period for summer tourism and rest is shorter than on the Black Sea Coast (from 40 to 50 days).

The region is characterised by a small amount of precipitation and long hours of sunshine. On the Apsheron Peninsula there are 1,580 hours of sunshine in the period between May and October.

Difficulties in the recreational development of the region arise due to the shortage of fresh water, high seismic activity (7-8 points), the high saline content of the ground water and frequent stormy winds. Hot uncomfortable weather is typical for Baku (21 days), hot and stifling days for Lenkoran.

In the foothills along the Daghestan coastline there are several mineral springs that can be used for curative purposes including hydrogen-sulphide springs not far from Makhachkala, hydrogen-sulphate hydrogen-sulphide and sodium hydrogencarbonate thermal mineral waters 80 km south of Makhachkala; carbon dioxide springs of the Borzhomi type (Zemaunee). On the Apsheron Peninsula use is made of sodium hydrogen sulphide-chloride thermal waters and of highly mineralised brine.

The structure of the recreational facilities of the region is quite simple—sanatoria and holiday homes specialising in medical treatment account for about 70 per cent of the total accommodation capacity while facilities specialising in health-building account for less than 30 per cent.

The Caspian recreational region cannot compete with other seaside regions since the accommodation capacity of

its recreational facilities amounts to only one-fourteenth of the accommodation capacity provided by the recreational facilities located on the Black Sea Coast of the Caucasus, one-eighth of the Crimean, one-seventh of the Odessa region and one-fifth of the Azov region. The scope of tourist itineraries and excursion services is also limited. All this shows that the development of the Caspian region is still in its initial stage.

Scientific institutions of the region are studying problems, bearing on the organisation of recreational activities. In Azerbaijan special attention is devoted to the development of seaside resorts, tourism, recreation zones near cities and the utilisation of recreational resources.

The bulk of vacationers in the Caspian region are local people. This is explained primarily by the small number of recreational facilities. Besides there is a tradition among urban dwellers to visit their relatives living in the countryside and spend their vacations there.

The Apsheron Peninsula serves as a recreational centre for the Baku conurbation. It has beneficial climatic conditions, good beaches and the longest bathing season in the country. The average temperature of the air does not fall below +3°C even in winter. The recreational facilities are located as close as an hour's drive from Baku and are linked with the city by railway and highways. The majority of Azerbaijanian sanatoria, rest homes for young people and Young Pioneer camps are concentrated on the Apsheron Peninsula because of its balneological resources (hydrogen sulphide springs and naphthalane muds).

Sanatoria provide treatment for circulatory, nervous and digestive disorders. Dry and warm air in combination with the beneficial effects of the sea are conducive to treating tuberculosis and rheumatism. All recreational facilities are surrounded by parks and orchards and look very picturesque against the monotonous landscape in the background.

On weekends thousands of vacationers from Baku make their way to the Apsheron Peninsula with its numerous recreation centres and bungalows. Altogether there are over 22,000 bungalows on the Apsheron that can accommodate about 110,000 persons at a time. There are a large number of medical-treatment institutions for children in Baku itself.

The flow of vacationers from other districts is insignificant

for the time being and is primarily associated with tourist itineraries of local significance, 14 of which pass through the territory of the Caspian recreational region, with more than half of them leading to the Khazar tourist hostel located on the seashore. Nine itineraries pass through Transcaucasia, connecting Armenia and Georgia with the Caspian Sea. Over 52,000 tourists take these routes every year.

In the Azerbaijan SSR, the Baku travel and excursion bureau caters to 572,000 tourists a year, and the excursion bureaus on the Apsheron and in Sumgait cater to 107,000 and 109,000 travellers respectively. In Daghestan, the Derbent excursion bureau caters to some 76,000 persons and the Makhachkala travel and excursion bureau, over 130,000.

Baku, a large cultural and industrial centre of the country, is of great interest to tourists and excursionists. There are many historical and revolutionary museums, as well as memorial places in the city. They are associated with the revolutionary events of 1905-1907, with the struggle for the establishment of Soviet power and with the activity of S. M. Kirov, a prominent worker of the Communist Party and a Soviet statesman. The Baku fortress housing the Shirvanshakhs' Palace (15th cent.), the Kyz-Kalasy (Maiden's Tower) (12th cent.), the minaret of Synyk-Kala (11th cent.) and other architectural monuments have survived and can be visited by tourist.

Excursions are also organised to the young industrial town of Sumgait and to the oil-fields. On the Apsheron Peninsula one can visit the temple and monastery of the fire-worshippers (17-18th cent.), an old castle (12th cent.), a mosque (15th cent.) and a number of other interesting places, for example, the open-air museum of rock drawings (Kobystan). There are many historical monuments to the north-west of Baku: the mausoleum of Sheih Djuneida (16th cent.) is not far from the town of Kusary, the Djuma mosque and the mosque of Sakina-Khanum (19th cent.) are further to the south, and still further south in the town of Siazan close to the seashore stands the Chirakh-Kala fortress (4th-7th cent.).

In the city of Derbent (Daghestan) excursions are organised to ancient mosques, the mausoleum of the Derbent Khans, the house of Peter the Great, the house-museum of A. A. Bestuzhev-Marlinsky, a revolutionary-democratic writer of the 19th century, and to other interesting sites.

South of Derbent there is Ashaga-Stal—the house-museum of Suleiman Stalsky, a well-known Soviet poet. A women's mosque, Koshmimu, has survived near the village of Kubachi, a place famous for the skill of its silversmiths.

With the exception of the south-eastern part of the Kura-Araks lowlands and the area north of Makhachkala, the Caspian recreational region has extensive transport communications. A railway line runs along the Caspian seashore and the Apsheron Peninsula has a ramified network of railways and highways. The latter make it possible to organise interesting circular trips, for example, Makhachkala-Buinaksk-Gunib and then across the mountains to the lower reaches of the Samur River, returning to Makhachkala via Derbent.

Baku, which is the largest transport junction of the region, is connected by sea with Makhachkala, Astrakhan and Krasnovodsk, and by air with 40 cities of the country. Makhachkala has regular air service to 11 cities.

Construction on the coastline is impeded by difficult geological conditions, primarily by the fluctuation of the level of the Caspian Sea. Over the last 40 years, the level of the Caspian Sea has dropped 2.5 metres. Annual variations of the water level (from 0.5 to 0.6 m) and wind-effected phenomena are also a hindrance to construction. Besides, numerous oil-fields and fish-processing factories strewn along the seashore prevent the organisation of recreational activities.

A greater part of the health resorts are to be found on the Apsheron Peninsula. Talgi and Kayakent are two modern inland health resorts in Daghestan in the vicinity of the mineral springs. On the seashore there is a rest home with summer pavilions, accommodating 305 persons at a time in the period between May and October. The majority of the recreational facilities of the region function on a seasonal basis. Only several sanatoria with all the modern conveniences, hydrophathical establishments, solariums and comfortable beaches operate all the year round. The grounds of the sanatoria are full of greenery.

There are only a few tourist hostels on the seashore. One of them is the Khazar tourist centre on the Yalamin coast which is open from May to October. A large tent town is pitched up near a splendid verdant sandy beach; good drinking water is available all around.

A large resort town is to be built south of Derbent. This area was chosen because of its favourable climatic conditions, the presence of mineral springs and an excellent beach. The resort zone will embrace 100 km of the seashore and provide accommodation for 200,000 vacationers a year.

Resort complexes with over 850,000 accommodations will be built on the Apsheron Peninsula. The Yalamin coast will be developed to suit water-based recreational activities.

The highly-productive agriculture of the region (especially of Azerbaijan) supplies grapes, pomegranates, figs and other medicinally valuable berries and fruit.

The Crimean-Odessa-Azov Group of Recreational Regions

The western part of Zone I embraces three seaside regions that have much in common even though their recreational economies are developed to varying degrees. All of them satisfy primarily the recreational needs of the residents of the continental regions in the west of the European part of the Soviet Union (but, of course, they are of national significance as well). The fact that these three regions are part of the Ukrainian SSR makes it easier for many industrial regions in the south of the Ukraine to solve problems of the recreational use of land. This explains why recreation centres and rest homes predominate in the system of therapeutic and prophylactic medicinal institutions (from 44 to 83 per cent). In number of recreation centres, these regions rank first in the zone.

The proximity to industrial and administrative centres makes it possible to use territories on which recreational facilities for overnight visitors are located for organising one- or two-day vacations of the residents of the near-by cities. The principal recreational function of these regions is to organise prophylactic and, partly, therapeutic medical treatment. Climatic conditions here are favourable for swimming and bathing in the sea and its lagoons (the bathing season lasts from 120 to 140 days) as well as for other health-building activities (from 150 to 180 days a year).

Swimming and sun bathing are the main attraction, but the immediate proximity to the seashore of woodless and dry steppes (in the Azov and Odessa areas) and of mountains and steppes (in the Crimea) predetermined the linear-nodal development of these areas. All resort towns and roads have

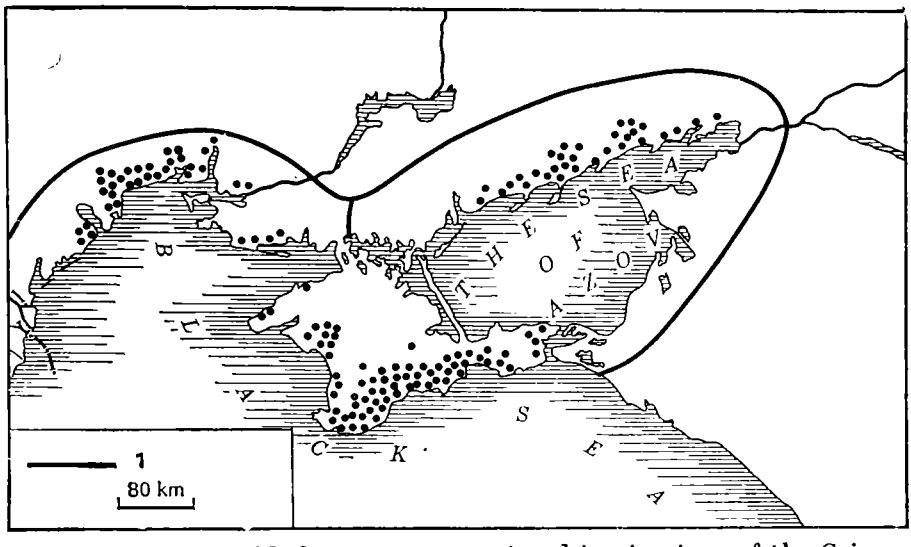

Fig. 17. Location of lodgings at recreational institutions of the Crimea-Odessa-Azov group (compiled by L. S. Filippovich).
1—the boundaries of recreational regions. Each dot stands for 1,000 beds.

expanded parallel to the seafront with relatively little development inland.

In all three regions difficulties in developing recreational economies arise because of the dry climate, the consequent deficiency of vegetation and the necessity of additional irrigation.

The Crimea ranks first among them in development and structure of its recreational economy. The high quality of its recreational resources made it possible to use the Crimea as a health resort earlier than other regions. At the present time there are all kinds of recreational facilities with a highly-developed infrastructure. They are built in picturesque places specially planted in various types of greenery.

The development of the Odessa recreational region has just begun and is proceeding on lines similar to those in the Crimea. Individual recreational institutions have been united into combines, and recreational grounds have merged. A recreational infrastructure is developing. The region caters to the residents of a vast area adjoining it from the north.

The Azov region is at the initial stage of development. Recreational institutions are springing up, previously unused areas are being turned into recreation centres, and elements of

the recreational infrastructure are being formed. The region is used for recreational purposes by the population of the adjacent areas that have no outlet to the sea.

The Crimean Recreational Region

The Crimea is one of the oldest and most rapidly developing regions. Individual health resorts began to emerge here already in the first half of the 19th century, serving as places for medical treatment and rest primarily for the wealthy people of tsarist Russia. In the second half of the 19th century the Crimea won great popularity as a place suitable for treating lung disorders.

The Crimean resorts received special attention from the very first days of Soviet power. On December 21, 1920, Lenin signed the decree entitled "On Utilising the Crimea for Treating Working People". In the 1920s sanatoria and rest homes were opened in the nationalised palaces and villas. The first sanatorium for peasants was opened in Livadia in 1925.

A new stage in the development of the Southern Coast of the Crimea began in the 1930s when numerous sanatoria were built and the first general plans for the development of the Crimea's Southern coast as a national resort region were worked out. It was planned to develop areas further away from the sea, and to improve transportation facilities and the supply of water. Great attention was given to the study of the Crimea's potential as a health resort which eventually led to the emergence of Soviet health resort therapy and climatology.

By the beginning of the 1940s the Southern Coast of the Crimea had become one of the largest health resorts of national significance.

The war unleashed by the German fascist invaders inflicted colossal damages on the Crimea's resorts. According to very modest calculations, losses amounted to 550,000,000 rubles.

After the war the main task was to rehabilitate the war-ravaged economy and accumulate reserves for its further development (1945-1950). In the 1950s construction of new resort institutions and modernisation of the old ones began on a large scale. Problems of transportation services were regarded as particularly important. The Simferopol airport was rebuilt practically from the ground. The main highway

connecting Simferopol with the Southern Coast of the Crimea was fundamentally reconstructed and a trolley-bus service between Simferopol and Yalta opened. Hydrofoil vessels began to make regular trips along the coast.

Great attention is devoted to the geographic aspect of the Crimea's recreational development. Research studies include an evaluation of its natural resources and recreational potential, as well as the functional typology and an aesthetic evaluation of its natural complexes.

At the present time the Crimea is one of the most intensively used recreational regions of the country. The number of vacationers keeps growing from year to year: the figures for 1929, 1953, 1968 and 1974 were 110,000, 700,000, 4,000,000 and over 6,500,000 respectively. The prospective figure for the year 2000 is from 16,000,000 to 20,000,000.

This unprecedented and constantly growing influx of vacationers outstrips the development of the material and technical basis, creating great difficulties in the functioning of the territorial recreational system. It explains an extremely high proportion of vacationers who come with no reservations and find accomodations on their own (75 per cent).

There are over 300 recreational institutions in the region. Sanatoria and holiday homes with medical treatment rank first in the number of accommodations (47.7 per cent), followed by rest and holiday homes (23.2 per cent), recreation centres of industrial enterprises and administrative institutions (21.6 per cent), and tourist facilities (7.5 per cent). Among other recreational regions of the country the Crimea ranks third in the number of accommodations at sanatoria and holiday homes with medical treatment and has no equal in the number of accommodations at these institutions per 1,000 residents.

The numerous sanatoria of the Crimea provide treatment for persons suffering from respiratory diseases of a non-tubercular nature, from functional disorders of the nervous system, and from cardiovascular diseases. As we have already noted thousands of vacationers come to the Crimea with no advance reservations attracted by the sea and the sun.

An analysis has shown that in summer residents of the European part of the USSR make up over 90 per cent of the total number of vacationers who come to the Crimea (residents of the Ukraine and the Central zone of the European part of the USSR accounting for about 70 per cent of the entire

contingent). This is explained by the availability of transportation facilities (70 per cent of the vacationers come from places not farther than 2,000 km away from the Crimea) and by the great demand for recreation in these industrial agglomerations.

The composition of the vacationers is as follows: workers—20 per cent, office workers—30 per cent, engineering and technical workers—23 per cent, teachers—10.3 per cent, students—9.1 per cent, pensioners and housewives—4.8 per cent, and agricultural workers—0.4 per cent.

The greater part of vacationers (69.7 per cent) are people under 40, of whom persons between 30 and 33 make up 38.3 per cent. The proportion of young people between 16 and 24 is also significant (18.5 per cent). This shows that the bulk of vacationers are young and healthy people. Women comprise 59 per cent of the total number of vacationers. It should be mentioned that the majority of adults come to the Crimea for receiving medical treatment and restoring and improving their health. Over half of the vacationers (58.2 per cent) spend from 16 to 28 days in the Crimea.

The season plays an important role in the number of vacationers and persons receiving medical treatment. Usually their influx is especially great in July and August. Seasonal changes make it extremely difficult to organise various services, including the work of transport and of service personnel. To avoid seasonal "peaks", plans are made to increase the number of available accommodations at the year-round recreational institutions of the Crimea by approximately 200 per cent.

The Crimea plays a particularly important role in the organisation of recreation and medical treatment of children.

The world-famous seaside resort Yevpatoria provides climatic treatment and mud cures for children suffering from bone tuberculosis and the after-effects of poliomyelitis; in the sanatorium named after Professor Bobrov (in the village of Shevchenkovo, between Alupka and Simeiz) children that suffer from bone and joint tuberculosis, receive medical treatment and attend school; the Rosa Luxemburg and the Yasnaya Polyana sanatoria (in Koreiz) accommodate children together with their parents and specialise in treating respiratory diseases of a non-tubercular nature.

The all-Union Young Pioneer camp Artek enjoys world

renown. Recreation here is combined with climatic treatment, sports, tourism and various occupations. When the school year begins, vacationing is combined with studies.

The Crimean seashore is extensively used for short vacations as well. The reason for this is the rapid growth of the Crimea's urban population, the higher standard of living and the development of new requirements among its rural dwellers.

Districts adjoining the mountain pass on the Simferopol-Alushta Highway are most suitable for the development of skiing activities.

In the Crimea there are eight travel and excursion bureaus and one excursion bureau, which cater to over 8,200,000 visitors a year. Sightseeing trips are particularly popular; travellers spend a day or several hours in the Crimea's exotic places and get acquainted with its cultural and historical sites. A total of 56 tourist and 370 excursion itineraries in the Crimea are available from the Regional Council for Tourism and Excursions.

The characteristic features of its natural conditions allow the following recreational subdivision of the Crimea: the Southern coast, the Western coast, the Eastern coast, the Crimean Mountains, and the Northern foothills. The most valuable from the recreational point of view is the Southern coast of the Crimea.

The Southern coast occupies a narrow strip of the Crimea's coast, which is about 110 km long and 2-3 km wide (its total area is about 300 sq km). It is distinguished by favourable climatic conditions (120-140 days with comfortable weather), the length of the bathing season (more than 120 days a year), long hours of sunshine (2,500 a year), and the beauty and variety of landscape.

However, the number of vacationers here is limited primarily by the fact that only small tracts of land are suitable for construction. The Southern Coast of the Crimea is characterised by an exceptionally high density of recreational institutions. Most of them have been built and are being built on a narrow 300-metre strip, yet for a number of reasons its expansion is considered inexpedient. A cross-section of the two-three-kilometre strip along the Crimea's Southern coast presents the following picture: at the bottom stretches a strip of beaches which differ from the rest of the beaches in the Crimea. Due to intensive abrasion pro-

cesses they have an intricate configuration and are heaped with huge boulders. Sandy beaches are small in area and only in rare cases they are from 30 to 60 m wide.

Then follows a strip with sanatoria, rest homes, holiday homes and other buildings accommodating both vacationers and local residents. This strip is quite narrow (300 m on an average). Landslides are a frequent phenomenon caused by clay foundation layers inclined towards the sea. Thus landslides occupy 25 per cent of the Alupka territory.

The vegetation of this strip is primarily anthropogenic—parks, alleys, and trees and shrubbery planted along roads produce the unique Mediterranean appearance of the Crimean resort. This strip is built up along almost the entire length of the shore, with the exception of the easternmost and westernmost parts which are extremely unfavourable from an engineering and geological point of view (especially the western part).

The next strip of land is used for agricultural production. It is not wide and there are practically no prospects for its expansion. For this reason priority is given to solving the problem of a more effective use of land and creating a system of artificial irrigation. This strip may be regarded as potentially suitable for building resort complexes or individual resort institutions.

The widest strip that usually reaches as high as 300 m above sea level is covered with typical scrub oak, juniper and pine forests, which are responsible for a unique micro-climate and play a very important role in soil conservation and in preventing landslides. River and groundwater run-off that is formed here influences the water regimes of the lower-lying strips.

Higher than 300 m above sea level begins the mountainous zone proper. The mountain ridge is an important climate-forming factor, protecting the Southern Coast of the Crimea from northern winds. The precipitation in the mountains reaches 1,000-1,800 mm a year while on the Southern coast it is only 550 mm.

A distinguishing feature of the Crimean Mountains are the extensive karst formations. Between 1959 and 1970 over 800 karst caves were discovered and examined. A hundred of them are first-class geological relics. Karst formations play an important role in the supply of water to the Southern coast.

The Western coast of the Crimea is a flat country open from all sides. An abundance of good beaches and shallows makes it suitable for the development of children's vacation spots. In shallow place the water warms up earlier than on the Crimea's Southern coast and in the second half of May its temperature is 17°-18°C. For the same reason it cools quicker in autumn. The bathing season lasts a little over four months. The coast is distinguished by many hours of sunshine (about 2,400 annually). The frostless period lasts some 230 days. A small amount of precipitation (less than 400 mm a year) and a low humidity level of the air are typical for the Western Crimea.

Summers are hot but the heat is relieved by fresh sea breezes. A less pleasant period begins in the second half of autumn when cloudy and windy weather sets in. In winter the weather is unstable, frequent rains and snowfalls are accompanied by strong winds. The coast is poorly irrigated and for this reason the vegetation is meagre.

The Eastern coast of the Crimea is flat land open from almost all sides with only a few small elevations in the far west. Its climate is similar to that of the Western Crimea differing only in the smaller number of hours of sunshine (about 2,300 a year) and a lesser amount of precipitation (over 350 mm a year). The frostless period is approximately the same (230 days). Unstable weather is characteristic of the second half of autumn and the entire winter. The occasional snow melts quickly and strong winds are quite frequent in winter.

There are fewer good beaches on the Eastern coast and in many places, there are steep drops rather close to the shore. The absence of perennial water courses is responsible for poor vegetation, and steppe landscapes similar to those of the Western Crimea predominate here.

In the Northern foothills small dissected uplands interchange with inclined plains. The climate is dry, with many hot uncomfortable days in summer. In winter the weather is more stable, there are fewer windy days and the snow melts more quickly than in the neighbouring mountains. River valleys are suitable for recreational development.

There are various historical, architectural and cultural monuments and ensembles, as well as museums and picture galleries in the Crimean territorial recreational region. The leading place is occupied by the Hero-City of Sevastopol in

which there are many memorial places associated with the heroic past of the Russian people and the feats of the Soviet people in the Great Patriotic War. There are several palace and park ensembles on the Southern Coast of the Crimea. Interesting excurisons are organised to the Alupka Palace-Museum and the park adjoining it, to the Livadia Palace and the Swallow's Nest castle. Many visitors are attracted to the Massandra wine-making complex, the Nikitsky Botanical Gardens, and the picture gallery of the Russian artist Aivazovsky in Feodosia.

Many branches of the Crimean economy are oriented toward recreational services. This is particularly true of the transportation facilities. The role of air services has greatly increased in recent years. The Simferopol airport serves 2,000,000 passengers a year. Simferopol also has a big railway terminal.

All types of transport (railway, marine, automobile and trolley-bus) are used within the region. Railway branch lines run from Simferopol to Yevpatoria and Sevastopol, and from Djankoi to Kerch and Feodosia. Motor roads connect Simferopol with all the resorts of the Crimea. There are also cable roads and chair lifts. A cable road will connect Miskhor and Ai-Petri.

Low buildings predominate in the resort towns. Limited land resources brought up the question of high-rise construction. Sixteen- and seventeen-storey hotels and other holiday facilities have been already constructed in the vicinity of Yalta.

The problem of water supply merits special attention. The total many-year average discharge of rivers for the Crimea as a whole is 583,300,000 cu m while for the Southern coast of the Crimea it is only 177,500,000 cu m, of which 71,000,000 cu m (or 40-42 per cent) is accumulated. Until recently the problem of water supply to the Crimea's Southern coast was solved by tapping ground-waters into storage basins. At the present time there is a seven-kilometre aquaduct for supplying 70,000 cu m of water a day and a water reservoir with a capacity of 12,000,000 cu m.

The problem of energy supply is solved by transmitting electrical energy from more distant regions and by the utilisation of small local electric stations. A gas supply system is being installed at a rapid rate.

The geological peculiarities of the region call for adopting

anti-seismic measures and mounting special installations to strengthen the slopes and shores.

Within the Crimean recreational region its parts (the Southern coast, the Eastern Crimea, the Western Crimea, the mountain foothills and the Crimean Mountains) are distinguished by their degree of recreational development and the functions they fulfil.

The Southern coast of the Crimea ranks first, accounting for over 60 per cent of the total accommodation capacity of the Crimea's recreational institutions and having a highly-developed general and recreational infrastructure. A high density of recreational facilities and the predominance of garden and park landscapes are typical for the Southern coast, which is famous as a medical-treatment, health-building and excursion centre.

The Eastern Crimea is characterised by the focal location of recreational facilities, while in the districts adjoining the Crimea's Southern coast there is a tendency to merge focal points and form larger areas. The infrastructure is less developed and there are fewer garden and park ensembles here than on the Southern coast. The basic function is medical treatment and health-building.

The recreational facilities of the Western Crimea are located at focal points. Their basic function is medical treatment. There is no uniformity in the development of the recreational infrastructure, Yevpatoria being the only highly-developed health resort. Mention should be made of Sevastopol which is a large excursion centre.

The Crimean Mountains and their foothills have not yet developed as recreational formations. Young Pioneer camps for the cities of the Crimean Region are located in the foothills. Bakhchisarai emerges as an excursion centre. There are no permanent recreational facilities in the mountains but their karst caves, unique mountain pastures and observation points attract many tourists and excursionists.

Simferopol plays a very important role in the formation of the Crimea's recreational system as the main transport junction and a centre of supply and organisation of construction (house-building combines).

Elements of a unified system of managing recreational institutions have evolved in the Crimea. There are three territorial councils for managing the trade union resorts: the Alushta Council (for Alushta and Feodosia), the Yevpa-

toria Council (for Yevpatoria and Saki) and the Yalta Council (for Yalta, Gurzuf, Koreiz, Miskhor and Kastropol). Tourist and excursion services fall under the Crimean Regional Council for Tourism and Excursions. Plans for developing resort complexes are devised at the Crimean branch of the State Institute of Town-Planning. The Sechenov Research Institute of Climatology and Climatotherapy has its premises in Yalta. Natural resources are studied at the Institute of Mineral Resources and at a number of other specialised institutions. Research on recreation is conducted at Simferopol University.

The Odessa Recreational Region

The Odessa region includes the entire coastline of the Black Sea from the Danube to the Perekop Isthmus.

Small establishments providing mud cures appeared already in the 19th century on the basis of the mud deposits discovered in the Kuyalnik and Khadjibei lagoons and at Lake Solyonoye. After the October Revolution several well-appointed sanatoria and rest homes were built in their place. However, large-scale development began only in the last decade.

Medical treatment and health building emerge as the leading functions of the region, determining its national and republican specialisation. Sanatoria and holiday homes with medical treatment account for 22.7 per cent while the rest and holiday homes for 27.6 per cent of the accommodation capacity of the principal types of recreational institutions of the region. The relative weight of the recreation centres is very high (44.4 per cent). The number of persons spending their vacations at the recreation centres and tourist hostels comes to approximately 670,000 a year.

Although only 1 per cent of the country's population lives in this region, it ranks ninth in the country and third in Zone I (after the Black Sea Coast of the Caucasus and the Crimea) in the accommodation capacity of the basic types of recreational facilities. And in the number of recreational facilities per 1,000 population the Odessa region occupies one of the leading places in the country.

In 1976 over 1,500,000 people visited this region. The majority of vacationers received medical treatment at

sanatoria and went in for water sports, fishing, swimming and bathing.

The resort resources (climate, mineral waters and muds) allow effective treatment of circulatory, motor, nervous, digestive and metabolic disorders as well as respiratory diseases of a non-tubercular nature.

The region is also the principal place for spending short vacations. On weekends thousands of vacationers from Odessa, Nikolayev and Kherson go to the seaside as well as to the shores of the Budak, Dniester and other lagoons. The number of people who leave the city on their days off increases along with the rapid growth of the cities and has reached 30 per cent of the entire urban population; in the future their share will reach 45-50 per cent. The development of automobile tourism considerably increases the mobility of weekend vacationers; for this reason zones for spending short vacations are located at a distance of 100 or more kilometres from the city.

The popularity of the Odessa region among tourists is constantly growing. Visits to regional centres and other seaside towns are included in 9 national (about 35,000 tourists) and 12 local (11,000) tourist itineraries.

The stream of foreign tourists increases from year to year, the growth of foreign tourism in the region approaching with the average for the USSR as a whole. The majority of tourists from abroad stop over during cruises.

The recreational framework of the Odessa region consists of five recreational units with their facilities: Odessa, Skadovsk, Belgorod-Dnestrovsky, Tatarbunary and Ochakov. Odessa occupies a particular place, being the focal point of sanatoria, rest and holiday homes and resort hotels, with a unified system of services and management. A Council for Tourism and Excursions and travel and excursion bureaus are also located in Odessa.

Odessa with its near-by resorts can be rightfully called a recreational combine that unites recreational facilities and individual establishments specialising in the medical and health-building cycle of recreational activities (50 sanatoria and holiday homes with medical treatment, 17 rest and holiday homes, 5 tourist hostels and over 150 recreation centres). Their total accommodation capacity exceeds 50,000 beds (more than 63 per cent of the accommodation capacity of the region). It is quite probable that the Skadovsk, Bel-

gorod-Dnestrovsky, Tatarbunary and Ochakov groups of recreational facilities will also become large-scale establishments.

This shows that a unified territorial recreational system with a clearly-defined hierarchy of its links has not yet emerged in the Odessa region. However, the availability of large curative mud and mineral water resources almost along the entire coast in combination with beaches and a long bathing season may contribute to the formation of a large recreational unit.

The development of the Odessa recreational region is closely connected with the activities of a number of research institutes working on problems of planning for recreation in the area, and the organisation of various recreational activities here.

The sea, sand beaches, mineral waters and muds emerge as the basic natural resources of the region. The warm period (with the average daily temperature of the air over +15°C) lasts for almost 6 months. Summers are quite hot and winters are mild, with frequent thaws.

An abundance of lagoons is typical for the Odessa region. The total length of the sea coast with the lagoons is 900 km. This part of the Black Sea is very shallow and there are many sand banks. Large stretches of the coast are quite steep (20-50 m). In the lagoons the water is fairly salty. For four months the average daily temperature of the water near the shore is over 18°C; in summer it often rises above 25°C (especially in the lagoons).

Beaches covering narrow sea spits and sand-bars as well as river banks stretch for almost 300 km. There are almost no sand beaches in the east of the region where the shallow places near the shore are silted up. The configuration of the shoreline constantly changes because the high steep shores composed of easily destructible loess-like loams recede from the sea under the influence of landslides and cave-ins. Wind erosion processes affect most strongly the sand deposits of river terraces and the sand-bars in the lagoons.

The coastal areas are almost lacking in natural vegetation. Only in some places (which are part of the Black Sea State Reserve) stretches of virgin steppe and small oak and birch groves are still to be found. There are patches with trees and bushes in the Danube, Dniester and Dnieper deltas, which are, for the most part, overgrown with impenetrable reeds.

Curative muds and mineral waters occupy an important place among the resort resources. A study was made of the seven deposits of silt sodium chloride muds; the richest among them are the deposits of the Khadjibei and Kuyalnik lagoons with reserves approaching 150,000,000 cu m. They are used in the sanatoria and resorts of Odessa. There are 16 mineral water springs on the territory of the region (of the Izhevsk, Kuyalnik and Narzan type). Sodium chloride and calcium-sodium nitrate carbonate waters predominate.

Odessa is the main attraction for excursionists. It has gone down into the history of the Russian and the Ukrainian people as one of the leading cultural and historical centres. There are six theatres, a Philharmonic society, a circus and six museums in Odessa. Outstanding scientists and writers have lived and worked here. During a sightseeing tour of the city one can learn about its historical and revolutionary background, the events of the Great Patriotic War and see its historical and architectural monuments. Odessa is a large excursion centre, which received over 2,770,000 excursionists in 1976. The number of excursionists throughout the region exceeded 4,000,000.

The national architectural and historical reserve at Belgorod-Dnestrovsky includes a Genoese fortress (13th cent.), a Scythian burial mound, and Greek and Armenian churches (13th-14th cent.). The Olvia[1] archaeological reserve is located on the western shore of the Bug lagoon south of Parutino.

The resort towns and settlements as well as medical and health-building facilities spread parallel to the sea and lagoons—the main recreational resource of the region. Besides sanatoria and rest homes, housed in small one- or two-storey buildings, which is also true of summer weekend facilities, there are large resort complexes with high rises. These include holiday homes at Karolino-Bugaz and Golden Sands near Zatoka, and a holiday home with medical treatment at Kuyalnik, accommodating 2,000 and 6,000 respectively.

Some of the recreational facilities have a clearly pronounced seasonal character. In the mid-1970s over 92 per cent of the sanatoria accommodations were filled all the year round, while the corresponding figure for the holiday homes

[1] The ancient Greek city of Olvia was built at the end of the 7th-early 6th cent. B.C.

was over 21 per cent and for the rest homes over 45 per cent (in the Odessa group of resorts the figures were over 96 per cent, over 45 per cent and over 57 per cent respectively). The total accommodation capacity of the recreational network exceeded 80,000. A considerable growth in the number of accommodations at rest and holiday homes, tourist hostels and recreation centres testifies to a noticeable improvement of the material and technical basis of health-building and recreation combined with educational pursuits.

Odessa is the largest transport junction of the region with practically all types of communication. All regional centres are very large sea ports, while Nikolayev and Kherson are both sea and river ports of national and international significance. This explains the specific features of recreation in the region. Odessa is the starting point of the Odessa-Sochi, Odessa-Sevastopol, Odessa-Yalta and other sea cruises. Tourist itineraries include Kiev-Odessa, Zaporozhye-Nikolayev, Zaporozhye-Odessa, Kiev-Kherson and other cities. The significance of Odessa and other regional centres as large transport junctions will grow still further because plans are being made to build a motorway that will link all the coastal resorts and tourist centres; their link up by sea routes is also envisaged. Sites of mass leisure activities of the residents of Odessa, Nikolayev and Kherson (Karolino-Bugaz, Budak, Dniester and Bug lagoons) are also connected by a ramified network of good roads.

One of the most acute problems is water supply. At the present time use is made mainly of the water from the Dniester and the Dnieper. It is planned to direct part of the water from the Danube into the Dniester and Dnieper lagoons; the first stage of constructing canals for the purpose has begun. Another important problem which is being successfully solved is the energy supply (the Kakhovka Hydroelectric Station, the Odessa Thermal Electric Station as well as many other small electric stations). The principal type of fuel is natural gas, which is transported to Odessa, Nikolayev, Kherson and to other resorts by a gas pipeline.

Engineering installations for the protection and development of new recreational resources is another urgent problem. Landslides deteriorate the quality of shores and beaches and complicate the recreational use of the area. This brought up the question of mounting special shore-strengthening and beach-building installations. Thus in the

environs of Odessa underwater wavebreakers are built, grass is planted to strengthen the shore, drainage holes for ground-water are bored and beaches are generally improved. Similar provisions are made all along the coast.

The development of large resort complexes and entire regions with a centralised system of services is one of the most progressive principles of recreational designing.

Further improvement of public catering and shopping facilities merits special attention.

The Odessa region specialises in wine-, vegetable- and fruit-growing on a large scale. There are several state farms that specialise in vegetable and dairy products.

Odessa, Nikolayev and Kherson are large industrial centres; the industrial development of other cities of the region is proceeding apace. The rapidly growing cities leave no room for recreational institutions. This required that a number of measures be taken. For this reason, since 1956, the construction and reconstruction of industrial enterprises has been prohibited in Odessa unless they are connected with catering to the resident population and vacationers or with civil construction or the municipal economy. In the future, only the food industry processing local agricultural produce and the light industry catering to the needs of the vacationers will remain within the bounds of the resort centres of the region.

Numerous cultural institutions are placed at the disposal of vacationers. In the Nikolayev, Odessa and Kherson regions there are 11 museums, 11 theatres, and over 3,000 cinema projectors, most of which are installed in the seaside towns and settlements. The travel and excursion bureaus cater to the local population and to visitors as well.

Health resorts and recreation facilities, outpatient clinics, hydropathic and mud-cure establishments, mineral water fountains, medicinal swimming pools, beaches and other balneological units as well as all the services are supervised by the Odessa Regional Council and the Nikolayev Territorial Council for the Management of the Trade Union Resorts. In addition, every region has its council for tourism and excursions. The Odessa Institute of Resort Treatment and Physical Therapy of the Ministry of Health of the Ukrainian SSR plays a very important part in organising health-resort treatment.

The Azov Recreational Region

This young recreational region specialising in health-building functions occupies the north-western and eastern coastline of the Sea of Azov. Its proximity to the large industrial centres of the Ukraine (Donbas, Zaporozhye) explains why the bulk of the vacationers here are residents of these centres. It is also this factor that explains the preponderance of recreation centres (63 per cent of the total accommodation capacity in the general system of the region's recreational institutions). A comparatively low proportion of sanatoria and holiday homes with medical treatment (12.5 per cent), rest and holiday homes (20 per cent), and tourist facilities (4.5 per cent) (Fig. 18) may be attributed to the recent emergence of the region and its closeness to the traditional medical and health-building regions of the country. Resorts of a national and republican significance are few in number.

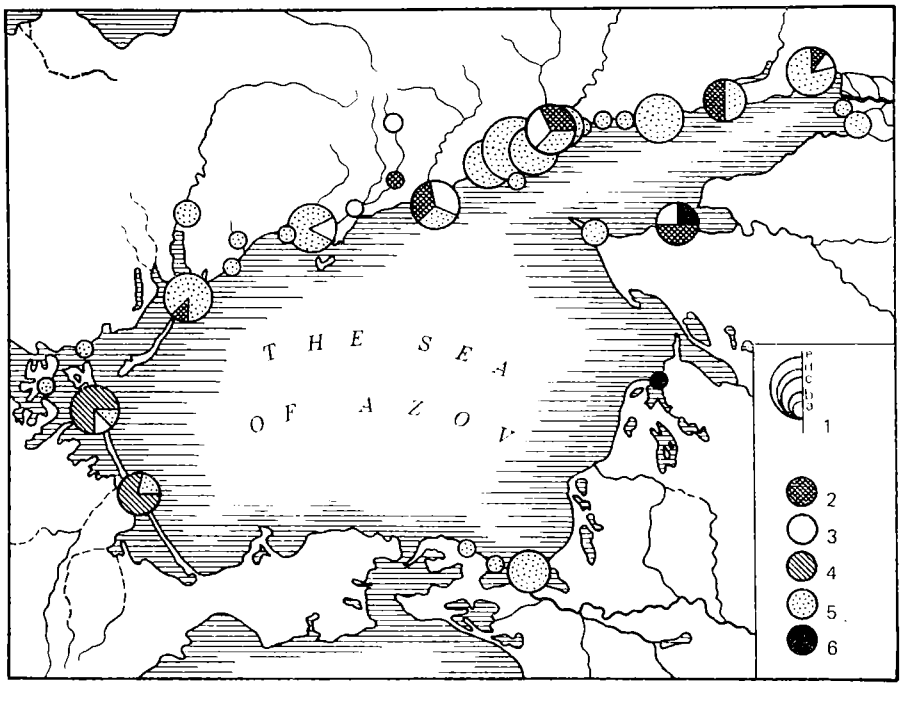

Fig. 18. Recreational institutions of the Azov region (compiled by N. M. Stupina).
1—the number of institutions: a—1; b—2-3; c—4-5; d—6-40; e—>40. Types of institutions: 2—sanatoria, 3—rest homes, 4—holiday homes, 5—recreation centres, 6—tourist institutions.

The region hosts over 900,000 vacationers annually; some 75 per cent of them spend their vacations on the north-western coast which is part of the Ukraine.

The region ranks first in Zone I in number of accommodations at its recreation centres, while in terms of other basic types of recreational facilities it resembles the Siberian regions. In number of these facilities per 1,000 resident population the Azov region ranks fourth in the country following the Black Sea Coast of the Caucasus, the Crimean and the Odessa recreational regions.

The Azov region is less developed than other western coastal regions in the south of the European part of the USSR. It is a sort of reserve that can be used for organising recreation not only of the population of the adjoining industrial districts but also of more distant areas of the European part of the country. Further recreational development of the region requires reclamation work.

On weekends and holidays thousands of urban dwellers from Donbas and Zaporozhye as well as from the maritime cities flock to the seashore. For example, the Berdyansk Spit serves as a suburban recreation zone for Berdyansk; the coast of the Taganrog Bay—for Taganrog, Azov and Eisk; and the Temryuk Bay and the eastern coast—for Krasnodar.

There are several cities in the Azov region (Berdyansk, Kirillovka, Eisk, and Zhdanov) where resort zones have taken shape or are just in the process and are similar to those of Odessa in their functions. Berdyansk has already approached a fairly high level of development. It is a seaside resort of a national significance with two year-round sanatoria, two holiday homes, a trade union rest home and hydropathic and mud-cure establishments. Eight other institutions for medical treatment and rest in Berdyansk belong to various ministries and departments.

Eisk and Zhdanov include several medical-treatment and recreational facilities. A further development of the coastal area may lead to the merging of individual resorts into a single resort zone. Thus in the project of regional planning, the Ukrainian part of the Azov region is divided into several resort sub-zones and 17 multi-functional (medical treatment, recreation, tourism) sub-regions, including medical and health-building complexes with a unified system of cultural services and amenities, motor-roads and residential quarters for the service personnel. The depth of the coastal resort

zone ranges from one to four kilometres. Its total accommodation capacity is 1,050,000 beds.

The planned accommodation capacity of the resort zone stretching along the Azov coast in Krasnodar Territory of the RSFSR is 550,000 beds. The local resorts specialise in medical treatment and the restoration of health. Areas unsuitable for medical and health-building purposes are turned into reserves and wild-life sanctuaries (for example, the swampy lowlands of the Kuban delta overgrown with reeds).

A draft master plan worked out in 1970 envisages the development of national and republican health resorts with 180,000 accommodations on the Arabat Spit where the Sivash curative muds, thermal waters and favourable natural conditions provided good foundation for organising medical treatment and rest.

The Azov region has not yet been sufficiently studied from recreational point of view (demand for recreation, environmental potentialities, the stability of natural complexes, etc.). Just as in the Odessa region, recreational research is conducted mainly at scientific institutions. They study problems pertaining to the allocation of areas suitable for medical treatment, recreation and tourism. Great attention is devoted to the present condition and prospects of developing the region, the organisation of suburban rest, the evaluation of natural conditions required for recreational activity, engineering and technical installations for strengthening shores and beaches, providing necessary services for the vacationers and protecting nature.

In the mid-1970s over 400,000 vacationers stayed at sanatoria, rest and holiday homes, recreation centres and tourist establishments annually; over 50 per cent of them stayed at recreation centres that provided medical treatment and health-building activities. Disorders of the circulatory, respiratory, digestive and nervous systems are treated at these resorts.

Vacationers with no advance reservations usually come with their families. They swim, sunbathe and engage in various sports. Their number adds up to approximately 350,000. In July-August the influx of such vacationers coincides with that of the vacationers who have reservations.

On weekends and holidays the number of vacationers that come to the Azov coast sometimes exceeds 2,000,000. As

rule they are attracted to places traditionally used for medical treatment and long vacations, that is, to locations with good beaches, shops, dining rooms and a well-developed transport system.

Eight national (of which four are for tourists with families) and six local tourist itineraries pass through the territory of the Azov region, catering to about 300,000 tourists a year. The number of travellers is approximately 2,000,000. Excursions are associated with the history of culture, the revolutionary past of the cities and their modern aspects, with the Great Patriotic War, archaeological relics and natural sites.

Natural conditions are similar to those of the Odessa coast. There are many sunny days, warm summers and mild winters. During a five-month period, the average daily temperature is over 15°C. The bathing season lasts over four months.

Good beaches stretch for tens of kilometres but their width is relatively small (from 0.5 to 2 km). The total length of the Azov coast approaches 1,500 km.

There are rich deposits of muds and brine in the Sivash, the lakes on the Berdyansk and other spits, in the lagoons and coastal sections of the sea, where they are 0.5-0.6 m thick. The geological reserves of muds range from tens to hundreds of thousands of cubic metres. Silt muds (sodium chloride, hydrogencarbonate, sodium hydrogencarbonate-chloride and others) are used by the health resorts. The muds are either used for curative purposes by the local population or transported to other districts of the country. There are over 15 mineral water springs in the region (including thermal water). The sodium chloride and calcium-sodium waters with a mineral content of from 2 to 35 and more grammes per litre and a total yield of over 40 litres per second predominate.

The Sea of Azov abounds in various fish species. The Azov-Sivash fishing and hunting reserve has been organised in this region. The Kuban delta, overgrown with reeds, has an outstanding scenic quality (the unique thickets of Indian lotus in the vicinity of Primorsko-Akhtarsk attract many tourists to this place). Near Melitopol there is an archaeological monument known as the Stone Grave.

All of the large coastal cities are connected by rail and highway with the cities of the Ukraine and the RSFSR which

emerge as centres where the demand for recreation and medical treatment is generated. Zhdanov and Taganrog are large sea ports which, in the course of resort development, will become transportation junctions funneling the streams of vacationers to different points on the coast. The highway running along the coast will unite all the resorts of the region into a single system.

The linear method of architectural planning typical of the Azov region (Fig. 18) can be explained by the gravitation of its economy to the coast. Most of the medical and health-building facilities are housed in low-storeyed buildings. By the mid-1970s the average accommodation capacity of individual sanatoria, rest and holiday homes, and tourist hostels ranged between 300 and 400 beds. Their total number of accommodations has reached almost 55,000 with sanatoria and holiday homes having medical treatment accounting for 12.3 per cent, rest and holiday homes, for 16.0 per cent, recreation centres, for 70.2 per cent and the tourist network, for 1.5 per cent.

The problem of water supply is a serious obstacle for the further recreational development of the region, which is part of an arid zone that suffers from a deficit of water, especially of drinking water. Ground-water found at a depth of from 60 to 150 m as well as the water of the Don and the Kuban rivers is used for the supply of water to the greater part of the north-western coast. Ground-water in the coastal zone is often salty.

An expansion of the recreational network is possible only if effective engineering installations are built. For example, in order to prevent the effect of abrasion and landslide processes special shore-reinforcing and beach-building installations should be mounted. It is also necessary to allocate and make effective use of protective zones separating industrial enterprises from residential quarters and health resorts, and to plant greenery in coastal areas.

Seasonal intensity in the work of existing recreational facilities, large numbers of vacationers accommodated at hotels and in private houses, the constantly growing influx of short-staying visitors create pressures on the local services. Public-catering establishments are particularly overcrowded during summer weekends, which is especially true of the coastal zone of Donetsk and Zaporozhye regions.

The development of the recreational economy on the coast

will lead to a further increase in the number of vacationers. This will require an expansion of services. With this aim in view a centralised system of services has been provided for in a number of plans for the development of the region. Small and medium-size towns located on the coast (such as Akimovka, Priazovsky and Primorsky) will be more extensively used for catering to vacationers, which will bring about changes in the system of their economies and in the utilisation of labour resources.

Food and agricultural enterprises located in the resort zone supply fresh grapes, vegetables and fruit.

ZONE II.
THE CENTRAL BELT OF THE EUROPEAN PART OF THE USSR

This zone stretches from the western boundary of the USSR to the Urals and encompasses Moldavia, the central and northern parts of the Ukraine, Byelorussia, Latvia, Lithuania, Estonia and a series of major economic areas of the RSFSR—the Centre, the North-West, the Volga area and the Urals. About 60 per cent of the country's population is concentrated in this zone, where large urban agglomerations are to be found. On the whole, its natural conditions are favourable for the organisation of recreational activities with its recreational network designed for servicing the local population. At the same time, this zone emerges as a sphere of the development of educational tourism.

About 44 per cent of the country's accommodation capacity of the sanatoria, 51 per cent of rest and holiday homes, 44 per cent of tourist hostels, 65 per cent of Young Pioneer camps and 75 per cent of work-and-rest camps are concentrated in this zone. There are quite a few institutions used both for long and short vacations: recreation centres (66 per cent of the accommodations), hunters' and fishermen's hostels (64 per cent), excursion bureaus (64 per cent), gardening societies (71 per cent of the gardening plots). In the structure of medical and health-building facilities for adults, recreation centres account for 43 per cent, sanatoria for 26 per cent, and rest homes for 21 per cent of the accommodation capacity.

The recreational economy of the zone is quite young and

is characterised by a predominance of territorial recreational systems of average taxonomic ranks (combines and units). An active process of the concentration of recreational facilities and the formation of systems of a higher rank is taking place on the Baltic Sea Coast, in the Carpathians, in the basins of the major rivers of the Russian Plain and around the largest urban agglomerations (Moscow, Leningrad and Kiev). The hero-cities (Moscow, Leningrad, Kiev, Volgograd and Brest) as well as Riga, Tallinn, Vilnius, Minsk and Kishinev emerge as specific recreational formations—excursion and tourist centres of national and international importance.

The Central Recreational Region

This region, with Moscow population of 8,000,000, the two well-developed conurbations (Moscow and Tula) and the rapidly developing Yaroslavl conurbation, is faced with the crucial problem of providing outdoor recreation facilities. This is so in spite of the fact that the region has a powerful recreational system with a ramified network of sanatoria, rest homes, tourist hostels and Young Pioneer camps that can accommodate about 700,000 vacationers at a time and are designed to cater primarily to the local population. The high level of the system's maturity is reflected in the relatively uniform development of the basic types of recreational facilities (28 per cent of them are sanatoria, 31 per cent are rest and holiday homes and 28 per cent are recreation centres). There are quite a few specific suburban recreational facilities in the region such as gardening societies, Young Pioneer camps, and sports camps for young people.

Forest-parks, water reservoirs, summer villages, gardening societies and recreation centres situated 120-150 km away from Moscow are extensively used for short health-building vacations.

The suburban zones of cities with 185 rest and holiday homes, 379 recreation centres, numerous summer villages and gardening plots are widely used for long vacations as well. Very often private houses in rural population centres are rented out. A great deal of attention is paid to the organisation of children's health-building vacations (there are

over 1,800 Young Pioneer camps and kindergarten summer houses).

The local population receives medical treatment at 300 sanatoria. They specialise in treating disorders of the circulatory, digestive, motor, and nervous systems. The sanatoria provide climatological (65 per cent) and balneological (20 per cent) treatment as well as mud cures (15 per cent).

There are 12 national and 16 local sports tourist itineraries in the region, including hiking and row-boat trips. Water-based sports and fishing are organised on numerous rivers and man-made reservoirs, while some of the elevations are used for cross-country skiing. There is a ramified network of hunters' and fishermen's hostels and sports camps.

Moscow is the nucleus of the Central recreational region, its influence extending far beyond the confines of the Moscow Region and ecompassing the adjacent regions as well. This region also includes several tourist-excursion localisations in the Vladimir, Yaroslavl and Kostroma regions with many of their cities (Suzdal, Rostov, Pereyaslavl-Zalessky, and Vladimir) attracting tourists from other areas. One more localisation is emerging in the north-western part of the region (Lake Seliger and the lakes around it), which is very popular with the residents of Moscow, Leningrad and other cities as well.

Sightseeing trips and excursions are organised for people coming from other areas of the USSR, for foreign tourists, as well as for local residents, which determines the national specialisation of the region, with six national and 11 local educational tourist itineraries passing through it. The Moscow excursion bureau serves over 9,000,000 excursionists a year. The popularity of other tourist sites is also rapidly growing, in particular of the cities of the Golden Ring—Vladimir, Suzdal, Rostov, Yaroslavl and others.

The Central region is one of the best studied ones from a recreational point of view. Extensive research work is conducted at various scientific institutions with a view to the evaluation of the natural recreational resources of the region, the allocation of perspective recreational areas, and the organisation of mass leisure activities in the suburbs of Moscow and other large cities. The zoning of its territory, the study of its functional structure, the evaluation of the

natural resources, the rational utilisation of natural complexes and the planning of grounds for mass leisure activities are questions that have been studied most thoroughly. A great deal of attention is given to the problems of the protection of nature. The recommendations prepared by planning institutes envisage a functional recreational zoning, the selecting of protected areas, and resort and recreational zones.

City dwellers of the region who come to the recreation zones on weekends and holidays make up the bulk of the vacationers (74 per cent).

Another group consists of vacationers who spend their leaves at various recreational facilities such as summer villages and rented cottages. These are primarily workers (34 per cent) and office workers (24 per cent). The greater part of the vacationers (over 61 per cent) are residents of the Moscow Region and Moscow.

The third group are excursionists who come to Moscow and other recreation centres of the region from all over the country.

Practically the entire region has favourable conditions for summer and winter vacations. The warm period is relatively long (from 90 to 100 days). In summer there are almost no days that are hot and uncomfortable. The bathing season lasts from 80 to 90 days. However, unstable weather is quite frequent in summer.

The duration of the comfortable period for the winter types of recreation ranges from 2 to 4 months. In a number of places the snow cover stays for 4 or 4.5 months. But there are years when this period is somewhat shorter because of frequent thaws. An insufficient level of ultra-violet radiation is observed during the winter months. The organisation of winter types of recreation is also impeded by winds (3-5 m/sec) when the temperature often falls to —5°-15°C (over 40 per cent of the total number of days).

Many of the landscape provinces of the region are covered with a dense network of lakes and rivers. The Moscow Sea (32,700 ha), Lake Seliger (23,000 ha) and Lake Sig (3,200 ha) are used quite effectively for recreational purposes. Among the other large lakes suitable for organising various recreational activities are Lake Chukhlomskoye and Lake Galitskoye (Kostroma Region), lakes Nero and Pleshcheevo (Yaroslavl Region), lakes Dolgoye, Krugloye and Trostyan-

skoye (Moscow Region). At the present time they are used primarily for fishing and bathing.

The seven reservoirs located on the territory of the Moscow Region play an important role in organising outdoor recreation for the residents of Moscow. Holiday and rest homes as well as zones for short vacations have been built on their shores. Trips on boats of various types (from luxury liners to canoes) may be taken along the rivers. Comfortable passenger ships are widely used for tourist trips and excursions on the larger rivers such as the Volga, that flows 1,200 km through the Central region, and its tributaries—the Oka and the Moskva rivers—as well as on other rivers.

The Central region is rich in nitric, nitric-methane and methane waters in artesian wells. As a rule, these waters can be brought to the surface by means of wells. By now sanatoria and resorts have already been developed in 6 regions (Ivanovo, Kalinin, Kostroma, Smolensk and Tula) on the basis of these mineral waters.

The hilly relief of the region is suitable for skiing. The Lenin Hills within the confines of Moscow, the environs of the Podrezkovo, Turist, Opalikha, and Zvenigorod are popular among skiers. The Valdai (343 m above sea level), the Smolensk-Moscow (319 m) and the Central Russian uplands (239 m) are also suitable for skiing.

Relatively large tracts of land in the region are covered with forests (over 40 per cent of the area). Glades and coppices in between the forests are suitable for recreation. The most valuable from this point of view are the pine forests, pine-broad-leaved and broad-leaved forests concentrated mainly in the central and southern parts of this recreational region (Smolensk, Moscow, Bryansk and Kaluga regions).

The variety of fish and game is conducive to the development of hunting and fishing activities. Measures for the protection of animals and a planned hunting economy have made it possible to renew hunting for sport (including elk-hunting). There are over 150 hunting grounds on the territory of the region totalling approximately 15 million ha. In addition, there are 3 state forest hunting farms—Pereyaslavl (126,000 ha), Bezborodovo (12,800 ha) and Istra (18,000 ha)—and 52 hunters' and fishermen's hostels, most of which are located in the Moscow and Ivanovo regions.

The natural beauty of the region with its typical central Russian forest landscape and a mild snowy winter seems "exotic" to the residents of other areas, especially to those from the south where there are no forests. At the same time, in spite of the generally favourable conditions for recreation there is a deficiency of "new resources", primarily artificial water reservoirs. Forest reclamation, improvement of natural forests and converting them into forest-parks and national parks will greatly increase these resources.

The Central region has a wealth of cultural and historical monuments. The Kremlin, Red Square and the Lenin Mausoleum in Moscow are visited by people from all countries of the world. Scores of theatres, museums, architectural and historical monuments as well as new construction sites attract numerous tourists and excursionists.

Memorial places associated with the Great October Socialist Revolution have been preserved in the Central region. They are particularly numerous in Moscow, where the museum exhibits tell of the struggle of the working class for the overthrow of the power of the landowners and capitalists. There are many places connected with the life and activities of Lenin. The Central Lenin Museum in Moscow, the Lenin Museum in Podolsk and several others are highly interesting. In Moscow and in other cities the excursionists are acquainted with the memorials of the Great Patriotic War, the defence of Moscow and the partisan movement that swept the western part of the region (Kalinin, Smolensk and Bryansk regions).

Numerous places of general interest are in the immediate vicinity of the capital city. These are the ancient Russian towns of Mozhaisk, Volokolamsk, Ruza, Vereya, Zvenigorod, Dmitrov, Zagorsk and Zaraisk with their numerous museums and architectural monuments dating back to the 12th-19th centuries. Former suburban estates of landowners such as Arkhangelskoye, Muranovo and Abramtsevo, and places famous for arts and crafts (Fedoskino, Bogorodskoye and others) are widely known. Not far from Moscow are cities that are even older than Moscow—Yaroslavl, Vladimir, Rostov-Yaroslavsky, Suzdal (9th-11th centuries) and some of the same age — Pereyaslavl-Zalessky, and Yuriev-Polskoy.

The Yasnaya Polyana house-museum of the outstanding Russian writer Lev Tolstoy is located not far from Tula.

The museum of the Russian poet N. A. Nekrasov is opened in Karabikha.

The Borodino Memorial is to be found not far from Mozhaisk on the site of the decisive battle (in August 1812) between the Russian army under the command of M. I. Kutuzov and Napoleon's grande armée that had invaded Russia.

The individual recreational institutions of the Central region are scattered all over its area and in the majority of cases can accommodate up to 500 persons each. However, there are large resorts as well, such as Krainka (800 beds) and Dorokhovo (about 800 beds), the holiday home at Klyazma (2,830 beds) and others. There are many summer cottages and gardening plots in the region.

The region has a ramified transport network. Its nucleus is the Moscow junction, including 11 radial railway lines, 15 highways, 2 river ports, and 4 of the largest airports of the country.

The railways of the region carry 40 per cent of the country's suburban passengers annually. Every day 25,000 passengers travelling over long distances pass through Moscow's railway stations in transit and approximately 40 to 50 times more passengers come to Moscow on local trains. The recreational specialisation of the river transport increases from year to year. The Moscow river transport junction alone services over 7 million passengers annually, of whom the majority are vacationers and tourists.

The role of motor transport is also growing. A whole fleet of buses services excursionists and vacationers. The number of private cars has greatly increased, which allows Muscovites to take longer weekend trips out of the city.

Recreational activities are supervised by the six regional and the Moscow territorial councils for the management of trade union resorts and by 12 regional councils for tourism and excursions. The Moscow Council for Tourism and Excursions occupies a particular place. In its charge are the district councils for tourism and excursions, the city excursion bureau, a hotel, tourist hostels and a holiday home, a motor depot, a catering establishment, and courses for the training of personnel.

Outdoor recreation in the environs of Moscow becomes very popular. The Moscow agglomeration is characterised by an uneven distribution of vacationers, a multi-functional

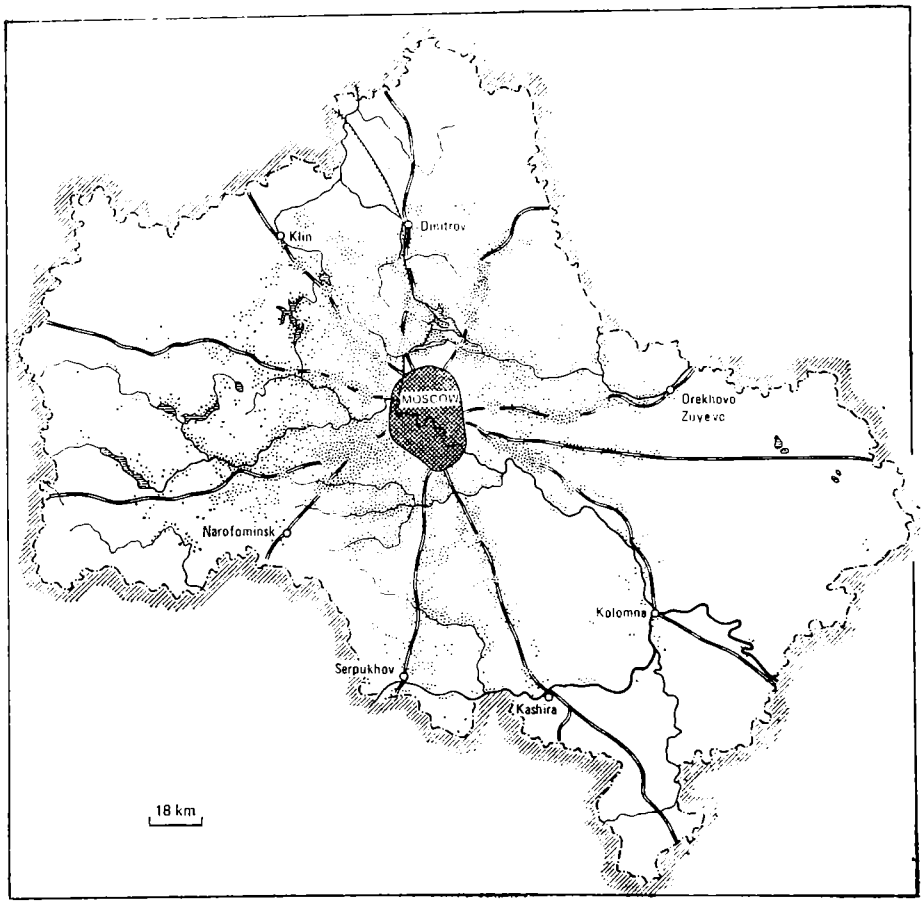

Fig. 19. Location of lodgings for vacationers in summer in the Moscow Region (compiled by L. S. Filippovich Each dot stands for 250 beds.

use of the territory, and exceedingly high pressure on all the links of the recreational system.

The distribution of the vacationers over the territory of Moscow Region is shown on Fig. 19. It is characteristic that recreation zones are concentrated along the railway lines within 50-60 km from the Moscow Circular Motorway. In the south-west of Moscow separate zones merge into a single area with a density of over 100 persons per square kilometre. A significant concentration of vacationers is observed along the Moskva River (north of Moscow), the Pakhra, the Klyazma and the Yakhroma rivers, around the Moscow Canal and the Istra, Ruza and Mozhaisk water

reservoirs, which have become very popular with Muscovites and attract tens of thousands of city dwellers on summer weekends and holidays.

The uneven distribution of the vacationers can be explained primarily by natural conditions and the availability of transportation facilities. The well-drained forest landscapes of the Smolensk-Moscow Upland are the most developed from the recreational point of view (46 persons per sq km). The sparsely-populated areas of the plain lying between the Moskva and the Oka rivers and those of the plateau beyond the Oka River (12 persons per sq km), as well as the marshlands of the Meshchera Lowlands (8 persons per sq km) and the Upper Volga Lowlands (less than one person per sq km) are poorly developed.

It is necessary to emphasise some peculiarities in the location of separate recreational facilities. Thus, rest homes, holiday homes and sanatoria are built by large rivers and water reservoirs. Young Pioneer camps gravitate to the Smolensk-Moscow Upland and to small towns of the Moscow agglomeration. Summer-house building cooperatives are concentrated mainly along the radial railway lines within 30-40 km from Moscow. The gardening societies, being a relatively recent recreational unit, are located on the periphery of the recreational region at a distance of 90-100 km from Moscow.

The majority of the recreation zones of industrial enterprises and the urban districts of Moscow are located in forest-parks and on the shores of water reservoirs. On weekends they are visited by thousands upon thousands of vacationers, and for this reason great attention is paid to improving their facilities. By now the potentialities of practically all of the forest-parks in the environs of Moscow have been studied and a system of measures worked out providing for their planning and utilisation as recreation zones.

The outer boundary of the recreational area of the Moscow agglomeration is determined primarily by the residents of Moscow. A dense network of radial motor- and railways makes the greater part of Moscow's suburban areas accessible to them. As a result, a monocentric area of constantly-used recreational grounds has formed around Moscow with its present boundaries being in the zone of a two hours' drive from the city. The presence of highways, leading to particu-

larly attractive places of rest (Lake Seliger, the Moscow Sea), and interesting tourist sites (for example, the cities of the Vladimir Region) changes the area's configuration.

In perspective it is envisaged to develop the territory within a 150-km radius around the Moscow Circular motorway including adjacent regions as well, lying mainly within a two hours' drive from Moscow. 106,000 ha are allocated for zones of short vacation that will be able to accommodate 1,200,000 vacationers a day in summer and up to 840,000 vacationers a day in winter. According to the General Plan for the Development of Moscow and the green belt, the capacity of the existing recreational institutions is to be increased so that they can accommodate up to 5,700,000 persons at a time (of which 3,000,000 will be short-staying visitors). Plans for a more distant future envisage the reservation of territories that will be able to accommodate 7,000,000 or 8,000,000 vacationers.

Moscow is the centre of excursions and educational tourism, with its more than 80 museums, 32 theatres, nearly 120 cinemas, over 10 concert halls, and 12 recreation parks. The past and the present beautifully blend in Moscow, where one can see ancient monasteries and the splendid cathedrals of the Kremlin as well as the high-rise building of the University, the Olympic sports facilities and the Exhibition of Economic Achievement. Almost all of the Moscow guests visit this exhibition at least once. In summer the daily number of visitors is 50,000 while on weekends and holidays it adds up to 120,000. The pavilions of the exhibition receive up to 10,000,000 visitors a year.

The Moscow City Excursion Bureau offers 279 excursions (including 107 sightseeing trips through the city and 53 visits to museums). Most popular are visits to museums and sightseeing trips through the city by coach or on foot (over 80 per cent of all of the excursionists). The popularity of one- or two-day excursions through the Moscow Region and beyond its limits has grown immensely, just as of visits to theatres and concert halls, arranged by the excursion bureaus.

Adult residents of Moscow comprise 37 per cent, visitors from other cities, 29 per cent and schoolchildren 34 per cent of the excursionists. Most popular, especially with non-Muscovites, are sightseeing trips through Moscow, with approximately 40 per cent of all the excursionists taking

part in these trips. All groups of the population show an almost equal interest in historical-revolutionary, military-historical excursions. Adult Muscovites prefer excursions associated with natural history and the history of architecture and city construction; they also like very much visits to museums and art exhibitions as well as excursions connected with the history of literature. Excursions to museums are popular among schoolchildren and non-Muscovites. Persons vacationing at health resorts display great interest in more specialised excursions associated with architecture and city construction, literature and art.

Over 2,000 excursion guides (not counting the excursion guides at museums) conduct excursions through Moscow.

Moscow is the country's centre of foreign tourism. Various excursions through Moscow and beyond its confines (to Arkhangelskoye, Zagorsk, Suzdal and Rostov) are arranged every day. Theatre festivals and holidays (such as the Russian Winter) as well as the Tchaikovsky competition of musicians are particularly popular. Moscow is well known as a place where many international congresses are held and as a host city of the 1980 Olympic Games.

The North-Western Recreational Region

This recreational region includes the territories of the Leningrad Region, the Karelian ASSR, and the Pskov and Novgorod regions. Its area is 368,900 sq km, and its population (in 1976) was 8,200,000 with 82 per cent living in the cities.

The North-Western region occupies a convenient economic and geographic position: it lies close to Moscow, the largest agglomeration of demand, has good transport communications with Finland, and an inflow of tourists from Scandinavia crosses its territory. This contributes to its excursion and tourist specialisation, the exchange of tourists with neighbouring countries and a greater choice of services for foreign tourists.

The excursion and tourist specialisation of the region (its share in the nationwide excursion services exceeds 10 per cent) may be explained by the fact that the city of Leningrad, one of the world-famous cultural centres with its unique 18th-19th-century Russian architecture, is located on its territory.

Leningrad, the cradle of the Great October Socialist

Revolution, is closely connected with the life and activities of Lenin. There are over 230 places commemorating Lenin, 11 memorial museums and the branch of the Central Lenin Museum in the city and the region. The entire world knows about the heroic defence of Leningrad during the Great Patriotic War and the feat of the Leningraders who withstood the blockade of 1942-1943.

A great number of architectural monuments and frescoes of the 11th-17th centuries have survived in the ancient Russian cities of Novgorod and Pskov located in this recreational region. Masterpieces of Russian wooden architecture are to be found in Kizhi; the Pushkin Memorial Reserve in the Pskov Region is known far and wide.

Leningrad is the second largest urban agglomeration in the USSR, and for this reason the organisation of outdoor recreation and short vacations of its dwellers is of great importance. Recreation zones gravitate towards the sea and lakes. There are more opportunities for organising water-based tourism here than in the Central region, though the bathing season is somewhat shorter. One of the specific features of the North-Western region is the possibility to combine short vacations with excursions to the suburban palace and park ensembles of Petrodvorets, Pavlovsk and Pushkin. Another of its specific features is a wide network of Young Pioneer camps. There are quite a few hunters' and fishermen's hostels with good hunting grounds in this region abounding in forests, lakes and marshes.

According to the types of recreational activities the North-Western region may be divided into several sub-regions.

Tourism for education is largely based on Leningrad and its suburbs, as well as the Pskov and Novgorod regions, occupying the south-western part of this recreational region. Karelia (lying in the north of the region) is a good site for tourism and fishing, and the east of the Leningrad Region is most suitable for hunting and fishing. Outdoor recreation is the leading function of the coastal zones of the Gulf of Finland and the Karelian Isthmus, lying in the immediate proximity to Leningrad. The coast of the Karelian Isthmus is used for medical-treatment and health-building activities during vacations (the first health resort in Russia—the Martsialniye Vody spa—was built here as far back as the early 18th century).

Several scientific-research institutes are engaged in studying the questions of the territorial organisation of vacations. They analyse the socio-demographic premises for organising and planning recreational zones, the organisation of urban and suburban zones of rest and tourism, and the stability of the natural complexes used for recreational purposes.

The bulk of vacationers are residents of the Leningrad agglomeration, tourists and excursionists from other districts, and foreign tourists. The major part of the vacationers come in summer.

In contrast to Moscow, there is less uniformity in the development of the suburban recreation zone of Leningrad, where the northern and the north-western territories are used more extensively with the coast of the Gulf of Finland being the most valuable from a recreational point of view. Vacationing at summer cottages is very popular. Thus, of more than 1,200,000 vacationers accommodated at suburban recreational facilities, 600,000 rent summer cottages from the local population. State-owned cottages, summer-house building cooperatives and private cottages accommodate over 15 per cent of all of the vacationers.

The palace and park ensembles (Petrodvorets, Lomonosov, Pushkin, Pavlovsk) are visited intensively by tourists coming from other cities of the Soviet Union, as well as by foreign tourists. They account for 50-70 per cent of the visitors on weekdays and 35-50 per cent during weekends. The pressures on the palace and park ensembles are very high with the density of the visitors attaining 1,000-1,500 and more per 1 ha of the central zone in the parks of Petrodvorets, Pavlovsk and Pushkin.

The network of forest-parks is widely developed, with some of them becoming part of the city and merging with the system of city parks. Forest-parks inhibit the process of repelling recreational functions. An analogous process is observed along the railway lines running from Leningrad, where many of the summer villages are gradually becoming industrial settlements.

The range of the recreational trips which the city dwellers make on weekends is increasing. Tourists, especially fishermen, go to lakes Chudskoye or Onega. But usually during weekends and holidays, 90 per cent of the Leningraders take trips through the Leningrad Region within a radius of some 100 kilometres from the city.

Leningrad is one of the centres of national tourism, with the city itself and its suburbs being the main attraction for tourists. In the near future the annual number of visitors to Leningrad is expected to reach 7,500,000.

The majority of foreign tourists coming to the Soviet Union are eager to visit Leningrad. Guests from Finland often make short trips to the city. Various international congresses are regularly held in Leningrad. Besides Leningrad, foreign tourists visit Novgorod, Pskov and Kizhi.

The Leningrad Travel and Excursions Bureau ranks first in the country in the number of clients served (over 9,500,000 a year). It organises over 120 city and approximately 60 suburban excursions by coach or ship as well as on foot annually. A sightseeing trip through the city lasts from 1 to 3 hours, and a suburban excursion from 3 to 12.5 hours. The bureau also organises trips through the country lasting from 2 to 6 days (to Moscow, Kiev, Riga, Volgograd, Vilnius-Kaunas, Tallinn—by train; to Beloye Lake, Kizhi, the islands of Lake Ladoga and Valaam Island—by ship; to Latvia and Estonia—by coach; to Central Asia, to the Black Sea Coast and to Murmansk—by plane).

Hosts of excursionists are attracted to places associated with Pushkin, and to the historical sites of the Pskov and Novgorod regions. The Pskov Council for Tourism and Excursions caters to over 1,700,000 excursionists a year and the Novgorod Council, to over 1,200,000.

The combination of forest and lake landscapes, the seacoast, the picturesque hills and rivers, an abundance of mushrooms and berries, and vast hunting and fishing grounds offer great prospects for using the nature of this region for recreational purposes.

The topography of the region is quite varied: the coastal lowlands intermingle with numerous hills that are not very high (200-300 metres above sea level, seldom higher).

The average length of the comfortable period for summer vacations and tourism is one month, while the favourable period lasts three months. During the warm period drizzling rains are quite often with only occasional downpours; a high humidity of the air is characteristic for the entire region. Snow does not melt for about 120 days on an average, its thickness being from 40 to 70 cm and only in the westernmost part (Pskov Region) it is 40 cm and even less.

Winter is comparatively mild with frequent thaws and cloudy weather. Summer is short with autumn setting in already at the end of August.

There are many lakes on the territory of the region providing good facilities for travels, sports and fishing. Lake Ladoga deserves special mention, being the largest in Europe and one of the largest lakes in the country. It has picturesque shores, bays and approximately 500 islands. In summer the surface layer of the water warms up to 25°C in the southern part and up to 15°-17°C in the northern part.

The region's short rivers with many rapids are exceedingly attractive, especially in Karelia where they have numerous waterfalls. These are splendid facilities for angling. The rivers freeze over in the middle of November, and some of them are not covered with ice for the entire winter because of their rapid currents.

The Gulf of Finland is the best among the other water sites of the region. The salinity of its water is but 6 per cent on an average. In August, the temperature of the water is 15°-17°C, and in shallow waters it is sometimes 20°C or more. The gulf is convenient for water sports, especially for sailing. Its indented coastline, especially in the north, and numerous islands attract many vacationers by their unique beauty. The northern and the north-eastern shores of the Gulf of Finland along the Karelian Isthmus are considered to be the best recreational sites of Leningrad. Splendid sand beaches, fringed on the north by ridges of hills and mixed forests, a mild climate with insignificant fluctuations of temperature, pure air and mineral springs make it possible to use this territory for organising all types of medical treatment.

The best known among the mineral springs are the Sestroretsk springs (weakly radioactive, of the chloride-sodium type with a low content of radon), the mineral springs located 50 km from Petrozavodsk, and Starorusskiye salt water springs located 100 km from Novgorod.

Pine forests prevail on the territory of the region, covering almost all of Karelia, the Leningrad Region and some parts in the south of it. Fir forests predominate in the east. Birch and aspen forests alternating with meadows, brushwood and agricultural lands occur in the most densely-populated and long-settled areas (Pskov and Novgorod

regions). Broad-leaved forests have been preserved, in some places, for instance oak groves in the south. The region abounds in flood-meadows. Wild strawberries ripen at the end of June; cloudberries, bilberries and raspberries in July and red bilberries at the end of August.

The animal world is represented by the usual taiga species. Karelia, for instance, is the habitat of the squirrel, muskrat, marten, white rabbit, fox and other animals. There are good conditions for hunting wild fowl: hazel hen, black grouse and wood grouse.

There is a nature reserve (with an area of 10,700 ha) near the Kivach waterfall; and several others are planned to protect unique landscapes.

The recreational development of the region is hindered by occasional karst phenomena, bog soils and an abundance of bloodsucking insects during the summer months (mosquitoes and midges).

In perspective the Leningrad agglomeration will have a total of 437,700 ha of recreational grounds.

The North-Western region is one of the oldest regions in the country with regard to recreational development. The well-equipped year-round recreational facilities are located in the resort zone of Leningrad along the northern coast of the Gulf of Finland. In summer, holiday and rest homes often double the number of their accommodations. Altogether in the North-Western region there are 45 tourist hostels (with 14 of them in the Leningrad Region) and 2 camping grounds that can accommodate 6,000 vacationers. Nearly three-quarters of the hostels are open only in summer.

In the Leningrad Region there are 177 hunters' and fishermen's hostels (accommodating 5,800 a year) and 237 sports and health-building centres (accommodating 23,600).

The ramified network of railway lines makes it possible to reach any significant recreational site in a short space of time. Leningrad is one of the largest ports of the Baltic Sea. Among the main water routes are the Volga-Baltic water system, the White Sea-Baltic Canal, and Lake Ladoga and Lake Onega. The water route from Leningrad to Yaroslavl passes through the Neva River, Lake Ladoga, the Svir River, Lake Onega, the Volga-Baltic Canal, the Sheksna River, the Rybinsk Water Reservoir and the Volga River. The passenger lines Petrozavodsk-Medvezhyegorsk, Petro-

zavodsk-Podporozhye (Pudozh) are widely used for tourism. The navigation season lasts from 230 to 300 days.

Leningrad is connected by permanent coach service with 46 populated points and by airlines with all the principal cities of the Soviet Union. The basic type of transport used for suburban trips is the railway. In summer the railway carries 80 per cent and in winter up to 90 per cent of all the people going to the countryside. Automobile transport services mainly areas that are located far away from the railway lines, while transport is used primarily for excursions.

The Western Recreational Region

This region includes the territory of the four Union Republics: Byelorussia, Lithuania, Latvia and Estonia as well as the Kaliningrad Region of the RSFSR. Its area is over 400,000 sq km and its population approaches 18,000,000 (of which 8,500,000 are urban dwellers).

The recreational economy of the region is geared to servicing the local population. The population of the neighbouring (primarily the North-Western and Central) regions also spends its vacations (health-building activities and medical treatment) at region's health resorts on the Baltic Sea Coast. The cool climate characteristic of some of the sectors on the Baltic coast makes it possible to recommend this region to elderly and ailing people for whom other climatic zones are counterindicated. This circumstance led to an extensive development of recreation centres and sanatoria.

Just as all the regions of Zone II, it provides various forms of tourism for education to the population of the entire country.

The region as a whole and especially its Baltic areas are distinguished by the high rates of recreational development, with large recreational systems being formed here in recent decades. Among them are the seaside resorts of Jurmala and Palanga, the balneological resorts of Kemeri and Druskininkai, the centres of tourism for education (Vilnius, Minsk, Riga, Tallinn and the Brest fortress). There are numerous resort localities and separate tourist sites whose popularity is growing rapidly.

During recent years, the Baltic Republics were the first

to create new types of recreational territories—national and forest-parks with almost untouched natural landscapes.

Scientific research conducted in the region is aimed at finding the best ways of organising recreational activities. Researchers of the Lithuanian SSR work in the field of aesthetic evaluation of natural landscapes, recreational landscape studies, organising zones for short vacations and creating natural parks.

Latvian scientists devote a great deal of attention to questions dealing with recreational resources, the organisation of transport services for the vacationers and the recreational assessment of scenery.

Estonian scientists are engaged in assessing and studying the practical use of forest and lake landscapes and the organisation of outdoor recreations. They have worked out a classification of interesting sites for tourism and compiled landscape maps of the environs of all the urban settlements of the Estonian SSR.

Byelorussia's scientists study questions bearing on the organisation of recreational territories, the development of tourism and of outdoor recreation.

Medical-treatment, health-building and educational cycles are the leading types of recreational activities. While the first two cycles predominate on the sea-coast and at the balneological resorts (Druskininkai), the educational cycle is more characteristic of the capitals of the republics as well as of Brest, Kaunas and resort localities of the Jurmala type. Such form of recreation as gardening societies is not popular.

On the whole, the number of accommodated vacationers is still small. For example, in Estonia accommodated vacationers constitute only 15 per cent (6 per cent at sanatoria, 5 per cent at rest homes, 2 per cent engage in tourism and 2 per cent in other recreational activities). Among persons that come to Palanga for long vacations, the number of self-catering vacationers is 6-7 times larger than the number of accommodated vacationers. About 100 medical and health-building institutions at Jurmala accommodate over 200,000 persons yearly. From 300,000 to 400,000 vacationers, mainly from Riga, come here on weekends. A total of over 6,000,000 persons spend their summer vacation in Jurmala. The combination of short and long

vacation is a specific feature of the seaside part of the region located close to large cities.

Most of the vacationers on the southern coast of the Baltic Sea are local people who prefer to spend their vacations in their republics. Of these from 49 to 70 per cent arrive with their families. Vacationers from other districts comprise from 30 to 40 per cent among whom healthy middle-aged and elderly persons predominate.

In Byelorussia outdoor recreation in the suburbs of Minsk is widely practised. Up to 30 per cent of the urban dwellers leave the city on summer weekends. In winter their number falls to 15-18 per cent. Trips for a distance of over 30 km are made by 42 per cent of the vacationers. In summer most of the vacationers go to rivers, lakes or man-made seas, and only persons over 50 prefer forests. On the contrary, in winter, forests attract the greater number of vacationers. Various recreational facilities have an accommodation capacity of 680,000 places (including 40,000 accommodations for weekend vacationers).

The Western region is visited by many excursionists and tourists. Most popular are railway and coach itineraries through the Baltic Republics with over 9,000,000 excursionists visiting them yearly. Some 5,000,000 excursionists visit Byelorussia. Riga ranks first in the number of visitors (about 2,400,000 a year), followed by Minsk (2,300,000), Vilnius (1,400,000), Tallinn (1,300,000), Kaunas (1,200,000), Brest (over 900,000) and Jurmala (900,000). Between 200,0000 and 400,000 tourists visit Gomel, Palanga, Daugavpils and Grodno annually.

Twenty-seven national tourist itineraries pass through the Baltic Republics with 9 of them passing through the territory of Latvia. Besides, there are 6 national transit itineraries that also pass through the Baltic Republics. Nineteen itineraries are organised during the warm period of the year (from May to October). The duration of the itinerary ranges from 15 to 21 days. Most of the itineraries include a great number of sights (they have up to 5 stops), with the exception of two itineraries (in Vaivari on the Riga seashore and Palanga). In addition, there are 25 local tourist itineraries (14 in the Baltic Republics, and 11 in Byelorussia).

Out of the 1,000,000 tourists who come to Byelorussia only 19,000 are on national itineraries. The majority of

the tourists on the national itineraries come from the Central region (23 per cent), the Volga (15.2 per cent), the Ural (9.6 per cent), the North-Western (9.2 per cent), and the Dnieper-Dniester (9.0 per cent) regions. The main stream of tourists from Byelorussia heads towards the Caucasus (32.4 per cent to the North Caucasus and 24 per cent to Transcaucasia).

Tourist trains pass through the Western region en route from the Baltic Republics to Central Asia and Siberia. There is an exchange of tourists between the Baltic Republics and the Caucasus, the Baltic Republics and the Ukraine. The stream of organised tourists from Moscow and Leningrad is particularly massive during weekends and holidays. In 1976, the Leningrad Council for Tourism and Excursions alone sent 122 tourist trains (each made up of 12 carriages) to the Baltic Republics. The majority of trips on tourist trains are arranged in winter.

The region is one of the seven principal Intourist areas. Most popular among foreign tourists are the capitals of the Baltic Republics. Exchange of tourists with neighbouring countries is widely practised. Regular sea trips from Helsinki to Riga are organised for tourists from Finland.

The climatic conditions of the region are favourable for the treatment of cardiovascular diseases (a moderately warm climate without sharp temperature fluctuations). The many-year average duration of the comfortable period varies from 40 to 45 days in the north to 60 days in the south. The interdiurnal variability of the temperature of the air is very small.

According to their microclimatic conditions the coastal areas of the Baltic Republics are divided into three zones: the beaches, the sand dunes and the forests. The equivalent-effective temperature is the highest in the forest microclimatic zone. Differences in the equivalent-effective temperature between the beaches and the dunes depend on the direction of the wind. Thus, when there is a northerly wind, the temperature on the beach is from 1 to 2 degrees lower than in the dunes, and when there is a southern wind, it is from 2 to 3 degrees higher.

The region has a wealth of medicinal muds. In the coastal areas, this is primarily sea silt. There are several deposits of peaty muds here and further down south. The largest

deposit of sea silt is to be found in the Haapsalu Bay (Estonian SSR). Peaty and sapropel muds are located primarily in Byelorussia. A total of 35 deposits that have been explored possess about 500,000 cu m of medicinal muds.

There is a variety of mineral water springs in the region. Chloride drinking water (the resort of Pärnu), as well as weakly-mineralised hydrogen sulphide and sulphate chloride drinking water (the resorts of Kemeri, Jurmala and others) are widely used in the north (Estonia, Latvia). Sodium-calcium-chloride waters (Druskininkai), sodium chloride water (Birstonas), and calcium-sulphate mineral waters with a low content of hydrogen sulphide (Linenai) are more developed in the south of Lithuania, Byelorussia. Calcium-sulphate mineral waters, sodium chloride-sulphate (Naroch), calcium-sodium chloride and magnesium-calcium-sodium sulphate-chloride (Bobruisk) are put to use in Byelorussia.

The region's sea coast stretches for over 4,000 km. There are many lagoons and shallows along the coast which, in combination with fine sand beaches, provide good conditions for health-building vacations, especially for children. The beaches cover vast areas, but there is no uniformity in the distribution of vacationers over them. In summer the beaches of Jurmala are overcrowded, especially those close to Riga. The rate being 5 sq m per person, it drops down to 2.5-3.0 sq m in the Dubulti-Majori section and to 3.3-3.5 sq m in the Dzintari-Avotu section during the period of "peak" pressures. Reserve areas can be found only further away from Riga (in the Jaundubulti-Vaivari section). Inland bodies of water, such as lakes with good beaches (Lake Chudskoye being the best of them) and man-made water reservoirs (for example, the Zaslavl Water Reservoir known as the Minsk Sea which is a place of mass leisure activities for the residents of Minsk), are also used as bathing and beach facilities.

People who enjoy walking and hiking are attracted to these places by a variety of landscapes and picturesque scenery. Sand beaches stretching for many kilometres are fringed with sand dunes and pine forests; there are steep high shores with caves, waterfalls and numerous islands along the western coast of Estonia (the West-Estonian archipelago numbers over 500 islands with a unique micro-

climate and vegetation). The inland areas of the region also have good sites for recreation.

There are over 11,000 lakes in the region, including 3,000 in Latvia and Lithuania, approximately 4,000 in Byelorussia and 1,500 in Estonia. The largest of them are located in the north of the region (lakes Chudskoye and Vortsjarv).

The largest river of the Baltic Republics is the Western Dvina (in the Latvian SSR it is called the Daugava River). Twenty-two rivers, each of them over 75 km long flow through Estonia. There are even more rivers in Latvia. In Lithuania and the northern part of Byelorussia the density of the river network amounts to 0.35 km per sq km. In the south of the region there are many small rivers from 5 to 25 km long. The upper reaches of many rivers are in close proximity to each other and there is a large number of canals that connect the upper reaches (Dnieper-Bug, Oginsky, Berezina and others) making it possible for tourists to pass from one river basin into another.

The southern and the eastern parts of the region are most suitable for skiing. In Byelorussia the snow cover settles in December and stays for three months, while in the south-east of the republic the snow stays for four months. With frequent thaws, the snow cover is seldom more than 10 cm thick (especially in the coastal area). As a rule there are no strong frosts in winter. The average temperature is —2°-7°C, and occasional drops to —20-25°C are observed. Winds are a frequent phenomenon in winter.

The landscapes of the region have been greatly transformed by man, and though the region lies in a forest zone, the area of its forests is not large: in Estonia they occupy 22 per cent, in Lithuania—23 per cent, in Latvia—29 per cent, and in Byelorussia—30 per cent of their area. About half of all the forests are pine forests.

The animal world of the region is typical of the forest zone, and a certain degree hunting for sport may be taken up. There are over 10,000 elk, 50,000 roe-deer, 10,000 foxes, from 5,000 to 6,000 racoon-type dogs, 5,000 wild boars and other animals in Estonia's forests.

The rivers and lakes of the region abound in pike, salmon, perch, eel, whitefish, roach, ruff. Special fish farms breed trout. In Lithuania and the northern part of Byelorussia, the total area of lakes that can be used for fish farming

is 2,000 sq. km. The swamplands on the southern coast of the Kurschi Gulf in Lithuania make up 90 per cent of the coast's area and are suitable for hunting and fishing.

The region has excellent conditions for the development of sailing, and somewhat worse for rowing and motor boating. The cross-country sectors are used for cycling and other sports and tourism.

The first national parks—Lakhema in Estonia (1971), Gauja in Latvia (1973) and the National Park of the Lithuanian SSR in the Ignalina Lake area (1974)—were created in the Western region with a view to a more rational utilisation of the natural complexes for recreational purposes. A further expansion of the network of national parks is envisaged. Five or six parks that will occupy over 3 per cent of the area of the republic will be created in Lithuania alone.

The region occupies a leading place in the country in the number of nature reserves (12): ten in the Baltic Republics and two in Byelorussia. The largest among them are the Byelovezhskaya Pushcha forest (87,500 ha) and the Berezina Reserve (76,000 ha) in Byelorussia as well as the Vijdumäe Reserve on the island of Saaremaa (593 ha) and the Vaikas Reserve (45.5 ha) in Estonia. There are also about 20 botanical, geological, lake and zoological reserves, including the island of Hiiumaa in Estonia with its yew tree forests, fossilised fauna and the Kapanos swamp in Lithuania, and Lake Svityaz in Byelorussia.

There are quite a few unique architectural complexes in many cities of the region, and all the capitals of the Baltic Republics are genuine museum-cities. One of their characteristic features is a skilful architectural combination of their old central parts that are carefully protected and restored with the newly-build housing estates.

The hero-fortress of Brest, Khatyn, Salaspils and other memorials are found on the territory of the region. The Western region is also noted for its ethnographical features that have made their imprint on architecture, art and everyday life.

There is a wide range of various recreational facilities in the region. In Estonia there are over 600 various recreation centres and 5 tourist hostels, as well as summer camps for pre-school-aged children, Young Pioneer camps, sports centres, motels and camping grounds. Many of them have

been constructed in the national style and are very attractive from an architectural point of view.

Latvia ranks first in the number of recreational institutions of a medical and health-building type. Special mention should be made of Jurmala which is the largest resort of the Baltic Republics, with beaches stretching for 30 km along the coast of the Gulf of Riga.

Lithuania ranks second after Latvia in the number of medical-treatment and recreational institutions. But in contrast to the latter, most of the Lithuanian resorts (Druskininkai, Birštonas, Likénai) are balneological ones and are located far from the sea with the exception of the seaside resort of Palanga.

Most of the health resorts and rest homes of Byelorussia have a republican significance and cater to the population of Minsk, Bobruisk, Gomel and other large cities of the republic. They are located either near the sources of mineral water (Bobruisk, Zhdanovichi), or on the picturesque shores of lakes and rivers (Naroch, Chenki).

Hotels are also available to visitors. Thus, in Latvia, there are 63 hotels in 50 cities, capable of accommodating 5,000 visitors. In Lithuania in 54 cities there are 68 hotels and boarding houses with an accommodation capacity for over 4,500 visitors.

There are many railway lines and highways in the region (the density of railway lines ranges from 26 to 40 km per 1,000 sq km). Its cities are connected by air links with the country's principal resorts and the largest industrial agglomerations.

The region's well-developed farming (vegetables, dairy products, poultry) and fisheries provide the recreational network with food products.

A total of 41 travel and excursion bureaus cater to the excursionists arriving in the region (20 of them are in Byelorussia, 9 in Lithuania, 5 in Latvia, 4 in Estonia, and 3 in the Kaliningrad Region).

According to the level of its recreational development the region can be divided into the coastal and the continental sections. The greater part of recreational institutions of the health-building type is concentrated in the coastal section with its inter-regional functions increasing more and more. Its development envisages further agglomeration of recreational institutions. The recreational institutions

of the continental section are concentrated around the industrial agglomerations and are acquiring a focal pattern.

The Dnieper-Dniester Recreational Region

This region embraces the Ukrainian SSR (excluding its maritime section) and the Moldavian SSR. Over 50,000,000 (of whom about 30,000,000 are urban dwellers) live on a territory exceeding 600,000 sq km, and this is one of the regions with the highest density of both the urban and the rural population. The recreational branch of economy caters primarily to the local population. Favourable climatic conditions (the warm period ranges from 100 to 160 days), big rivers (the Dnieper and the Dniester), and an abundance of vegetables and fruit allow the organisation of health-building and water-sports activities on a vast scale. Favourable conditions attract numerous vacationers from northern areas of the country. The tourist and excursion services function on a high level. There are many memorial places acquainting visitors with the history and culture of the Ukrainian, Russian and Moldavian peoples. Tourists are attracted by the Carpathian Mountains and the picturesque shores of the Dnieper and the Dniester. The curative properties of the Truskavets and Morshin mineral springs are known throughout the Soviet Union.

A relatively small number of accommodations at permanent medical-treatment and health-building facilities (sanatoria and rest homes) can be explained by the region's proximity to recreational Zone I, the long duration of the period with comfortable weather conditions, and the local custom of spending vacations in the countryside.

Recreation centres (46 per cent of the available accommodations) and sanatoria (27 per cent of the available accommodations) occupy a leading place in the system of the region's medical-treatment and health-building institutions. The proportion of rest homes is not large (16 per cent). Gardening societies, a form of recreation characteristic for densely-populated areas, are weakly developed here. But in the number of national tourist itineraries and excursion services the region ranks second in the country.

Functionally-differentiated recreational areas are taking

shape on the territory of the region. A sub-region of national significance (tourism, hiking) is emerging in the Carpathians. Kiev has become an excursion centre of international significance. The large body of recreational facilities that serves the Kiev urban agglomeration is growing. Two large recreational systems are developing on the banks of the Dnieper and the Dniester.

Since recreation and medical treatment require resorts and rest homes located outside the region, the basic efforts of local research centres were directed towards the study of the Crimea, the Black Sea coast and, to a lesser degree, the coast of the Sea of Azov. Within the region itself, great attention was paid to the study of the Carpathian Mountains, the organisation of suburban recreation zones (especially for the Kiev agglomeration), the planning of resorts (Truskavets, Morshin), the setting up of a network of medical-treatment and health-building institutions in Moldavia, and to the designing of resort, mountain and seaside recreation zones. Questions pertaining to the creation of national parks, the evaluation of natural resources in terms of recreation, and transportation were worked out. The recreational development of the Carpathian Mountains and a number of other areas of the Dnieper-Dniester region, the development of the resort facilities and sites of mass leisure activities in the Ukraine, and the development of suburban recreation zones were charted in corresponding plans.

The proximity of the region to the country's popular resorts has led to a situation in which a significant part of its population vacations outside its limits. Thus, in 1976 the Dnieper-Dniester region accounted for 46.8 per cent of the total number of accommodations available at the basic types of medical-treatment and health-building institutions of the Ukraine (as compared to 23.1 per cent in the Crimean, 18.6 per cent in the Odessa and 11.5 per cent in the Azov regions). Approximately 1,300,000 a year spend their vacations at sanatoria, rest homes, recreation centres and holiday homes of the region.

The major part of the vacationers at sanatoria and rest homes are local people. Outsiders are attracted to the Carpathian resorts such as Morshin and especially Truskavets with its unique mineral water (Naftusya). Many of them spend summer in the countryside.

Over 50 national itineraries pass through the region,

with a significant portion of them falling for the Carpathians. There are many walking itineraries and several skiing trails here, the majority of them operating from the middle of May to October and usually lasting not more than 20 days. Tours by coach and by air are also arranged here rather extensively. In addition, there are over 60 local itineraries. The majority of them are seasonal and last from 10 to 20 days. National tours by rail go through the hero-city of Kiev and the cities of Lvov, Uzhgorod, Mukachevo, Rakhov, Yaremcha, Chernovtsy, Kishinev and a number of other cities. Over 20 establishments cater to motor tourists.

The principal waterways used for tourist activities are the Dnieper, the Dniester and the Severski Donets. The most popular routeway (about 1,700 km) is the Dnieper (Kiev-Kherson-Kiev). In 1975 a total of 28,000,000 passengers were carried by the river transport of the Ukraine.

In 1976 there were 5 local itineraries on the Dniester (15,000 tourists). Great opportunities for the development of water-borne tourism and especially of sailing, are provided by the Kiev, Kremenchug and Kakhovka reservoirs created on the Dnieper.

The western part of the region (the Carpathians and Moldavia), with its favourable climate and balneological resources has the best conditions for the development of medical treatment at sanatoria. Summer here is hot, sunny and dry. The comfortable period is fairly long. In the central part of the region there are 1,800-2,000 hours of sunshine, in the north—1,600-1,800 hours, in the far south and in Moldavia—2,000-2,400 hours.

The region possesses all types of mineral waters that are available in the Soviet Union. Over 400 mineral springs and 16 sources of medicinal mineral waters have been explored in the Carpathians alone. There are many sources of radioactive mineral waters in the vicinity of Zhitomir, Belaya Tserkov, Donbas, the Carpathians and Moldavia. Hydrogen sulphide waters are typical for the Carpathian foothills, Transcarpathia and Moldavia. Carbonated mineral waters and thermal waters also occur in the Carpathians. In Moldavia there are also sources of bromine, iodine and boron mineral waters.

Local deposits of silt and peat muds are used to a rather low degree, which may be explained by the proximity of

the Odessa, the Crimean, and the Azov recreational regions with their unique deposits of medicinal muds.

The majority of the resorts specialise in the treatment of disorders of the blood circulation, nervous, and digestive systems as well as motor organs (the Slavyansk group, Mirgorod, Beryozovskiye Mineral Waters, and Morshin). In Solotvin in Transcarpathian Region, the first underground allergological medical-treatment unit in the country is operating in the salt mines.

Favourable climatic conditions make it possible to use approximately 23,000 rivers with a total length exceeding 50,000 km (including 2,000 rivers over 10 km each, and 116 rivers over 100 km each) for health-building recreation. There are thousands of various water man-made reservoirs in the region. The majority of them warm up quite well in summer and the bathing season lasts from 120 to 136 days, as, for example, in the Dnieper water reservoirs.

Lengthy thaws are quite frequent in the region and hinder skiing activities. Only in the north of the region there are two thaw-free months (January and February). In the Carpathians the snow cover is sometimes two metres thick and averages for 3 months (the skiing season lasts from January to April).

The landscapes of the region are transformed by man to a large measure. Agricultural landscapes prevail, with many orchards in the villages.

The Podol and the Dnieper uplands, the Kodry in Moldavia, the Dnieper Lowland Plain with its terraces and the spurs of the Central Russian Upland are suitable sites for health-building recreation. The landscapes in the Carpathians are remarkably beautiful with their deep river valleys and mountain slopes covered with beech, fir and beech, and fir and spruce forests.

Suburban health-building recreation has become a crucial problem in the region due to the high density of its urban population. Kiev, together with 26 urban-type settlements around it, is the third largest conurbation in the Soviet Union (2,300,000 inhabitants). A complex for daily outdoor recreation of urban dwellers has been created in the centre of Kiev on the Dnieper. Its area is about 1,000 ha, and it is visited by over 300,000 on a sunny summer day. Sports and health-building centres as well as recreation centres belonging to 94 Kiev industrial enterprises are located

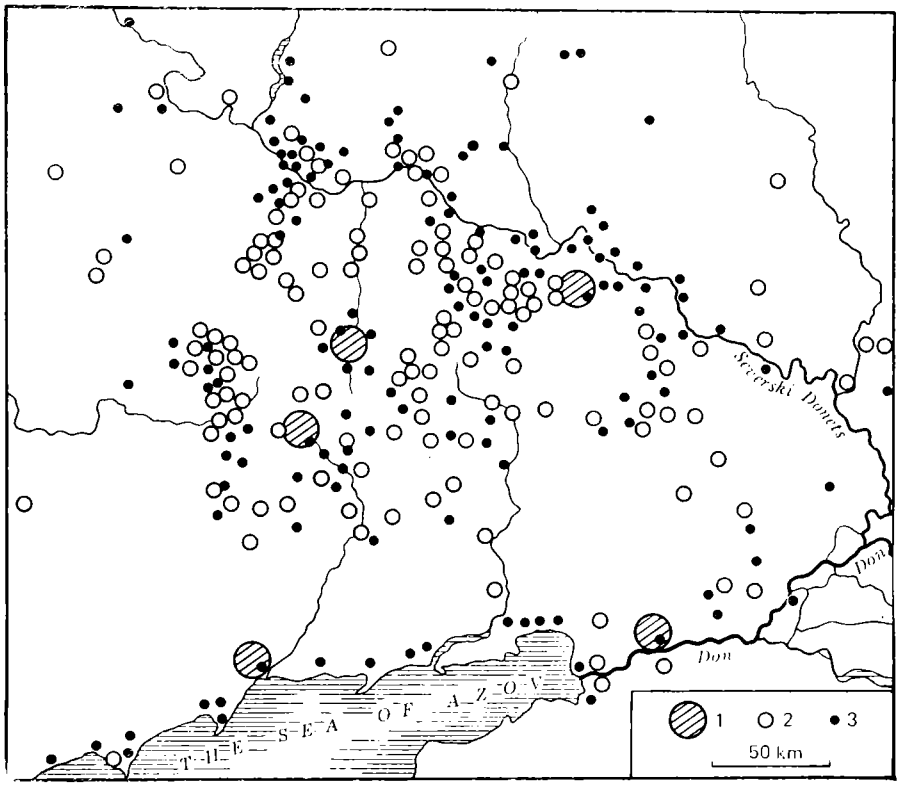

Fig. 20. Distribution of settlements and recreational institutions on the territory of the Donbas.
1—large cities; 2—other towns and urban settlements; 3—location of recreational institutions (compiled by L. S. Filippovich).

in the forest-park zone, on the banks of the Dnieper, the Desna, the Kozinka and the Kiev Sea. Half of the facilities for short vacations (weekends) are to be found in Kiev's green belt. Over 100,000 city dwellers spend their weekends and vacations on the shores of the Kiev Sea and the western shore of the Kanev Water Reservoir, which are 1.5 hours' drive from Kiev.

Kharkov is the second largest city of the region. There are no large man-made reservoirs and forests near it, and vast areas around it are under farmlands. For this reason suburban recreation zones are developed to the east and south-east of the city along the shores of the Severski Donets, the Pechenezhskoye and other reservoirs.

The recreational resources of the suburban zones alone cannot fully meet the demand for recreation of the res-

idents of the Donbas cities (Fig. 20). The suburban zones of Voroshilovgrad satisfy 70 per cent, Gorlovka—37 per cent, and Donetsk and Makeyevka—25 per cent of the demand. For this reason Makeyevka, Gorlovka, Thorez, Krasnoarmeisk, Dzerzhinsk and other cities of the Donbas, and primarily Donetsk, resort more and more often to the use of the Sea of Azov coast and the banks of the Severski Donets.

Good suburban facilities are at the disposal of the residents of Kishinev who may use the banks of the Dniester (the Vadu-Lui-Vode) and the Black Sea Coast.

There are 11 nature reserves in the Dnieper-Dniester region, including the world-famous Askania-Nova steppe reserve. Many of them have museums and are visited by excursionists. Thus, the excursion bureau at Askania-Nova caters to some 150,000 a year arranging excursions to the Zoo, the botanical gardens and the natural-history museum.

Unique landscapes are typical for the western part of the Ukraine (the Carpathians) as well as for the area along the Dniester, and the Kodry in Moldavia. The State Committee of the Council of Ministers of the Ukrainian SSR for the Protection of Nature has worked out a classification of sites to be protected in the Ukraine and has drawn up an inventory of natural sights. Over 3,000 unique trees have been registered (for example, oak trees that are over 1,000 years old, etc.). Measures to protect local natural sights are taken in Moldavia as well.

Architectural monuments, historical sites as well as modern structures (industrial enterprises, memorial complexes, etc.) promote excursion activities in the region. Kiev stands out as one of the ancient cities that has played a big role in the history of the Ukrainian and Russian peoples, and is today the capital of the Ukrainian SSR, as well as a political, cultural and economic centre. There are many architectural monuments—the St. Sophia Cathedral and the Golden Gates (11th cent.), the ensembles of the Kiev-Pechera Monastery (11th-18th cent.), as well as monasteries, cathedrals, churches and dwelling houses (11th-19th cent.). Over 20 museums and 6 theatres are housed in the city. The museum of old Ukrainian architecture and village life, opened in Kiev, is one of the largest open-air museums in the country with its 153 buildings and over 3,000 exhibits. Many of the city's memorial places

are connected with the October Revolution and the Great Patriotic War.

Lvov, the big city and cultural centre of the Western Ukraine, was founded in the 13th century. There are numerous cathedrals and houses dating to the 16th and 17th centuries. A museum of the history of book-printing will be opened in the former Onufriyev Church, where Ivan Fyodorov, the founder of printing in Russia, was buried. The Oles Castle in the Lvov Region, a monument of ancient Russian culture, is visited by 100,000 tourists and excursionists yearly. The Sofievka beautiful garden and park ensemble created over 180 years ago on the outskirts of Uman, on the banks of the Kamenka River, belongs today to the Academy of Sciences of the Ukrainian SSR and has been turned into a dendrological reserve. The Alexandria Arboretum at Belaya Tserkov and Trostenets in the Chernigov Region are interesting places for visitors. In Moldavia, as in the other parts of the region, there are many relics of the Middle Ages (a fortress of the 15th century at Soroki, the Church of the Assumption of the 16th century in the city of Kaushany), the Stary Orkhei national reserve, sites of settlements of ancient Goths and Slavs, ruins of a medieval fortress, a cave monastery of the 13th century, and others. In Kishenev, too, there are memorials of the 19th-century architecture as well as many museums, theatres and a philharmonic.

Trips to different cities are aimed at acquainting excursionists with their history, the events of the Civil and the Great Patriotic wars and with the activities of outstanding workers of science and culture who lived or live in these cities. Trips to the countryside predominate. Many excursion agencies arrange trips to Kiev, the capital of the Ukraine and a hero-city, with a wealth of historical monuments and sights. The Kiev Travel and Excursion Bureau alone arranges over 30 sightseeing trips through the city and 11 trips to the country around Kiev.

Excursions are also arranged to interesting structures and installations such as water reservoirs and hydroelectric stations.

The majority of the resorts are located not far from regional administrative centres, operate the year round, and have mineral water and mud-cure baths, treatment rooms, cultural and other facilities.

The existing network of recreational facilities are scattered along the major water arteries (the Dnieper and the Dniester) and have a linear pattern.

The greater part of sanatoria and holiday homes with medical treatment is concentrated in the Lvov Region, where Morshin, Truskavets and other well-known balneological resorts are located. Most of the recreation centres are situated close to large industrial agglomerations. The Dniepropetrovsk Region ranks first in the number of accommodations at recreation centres and at rest homes, followed by the Kiev, Kharkov, Voroshilovgrad, and Donetsk administrative regions. Both modern buildings and re-equipped old buildings (former country estates and palaces) are used for accommodating vacationers.

The region ranks first in the country in the number of tourist hostels, with the majority of them located in the west (Transcarpathian and Ivano-Frankovsk regions). Most of the tourist hostels offer lodgings in tents and light buildings of a summer type, and are usually open from May to September. Some of the tourist hostels are housed in large buildings with all modern conveniences and are open all through the year. In summer the majority of the tourist hostels accommodate an average of from 300 to 400 persons each.

Railway transport ranks first among the transportation services (36 km of railroads per 1,000 km). The second place is occupied by motor transport, with the total length of highways exceeding 250,000 km. There are many first-class highways in the region (Moscow-Kiev, Leningrad-Kiev-Odessa, Moscow-Kharkov-Simferopol, Kiev-Kharkov, and others). In recent years air transport has acquired great importance (the largest airports are in Kiev, Kishenev, Lvov, Kharkov, and Donetsk).

River transport lags significantly behind the first three types of transportation in the number of persons served. Thus, in 1975 railway transport accounted for 54.9 per cent, motor transport for 43.7 per cent and river transport for only 1.4 per cent of the total number of passengers carried in the Ukraine.

A number of natural factors complicate the recreational development of the region. Karst processes are observed on the Podol uplands, in the Carpathians, and along the right bank of the Don River. Landslides occur along the right

bank of the Dnieper, in the vicinity of Kiev, Kremenchug and on the banks of the Dniester as well. There is a possibility of mudflows and stone-runs in the Carpathians, and floods sometimes occur in the south-western (the most humid) part of the region.

The health resorts are in the charge of the Ukrainian and the Moldavian republican councils for the management of trade union resorts; Zaporozhye, Kiev, Poltava, Carpathian, Slavyansk and Truskavets territorial councils; and the Transcarpathian and Kharkov regional councils. The Ukrainian and Moldavian republican councils for tourism and excursions are responsible for the organisation of tourism. Twenty regional councils (not counting those in the Black Sea area) are attached to the Ukrainian Republican Council. There are some 60 travel and excursion bureaus in the region. The Kiev Travel and Excursion Bureau that services over 4,500,000 a year is one of the largest in the country, followed by the Kharkov bureau which services 1,100,000. The total number of excursionists serviced in the region is nearly 18,000,000 a year.

The Volga Recreational Region

This region embraces country lying in the middle and lower reaches of the Volga (Volga-Vyatka and Volga economic areas). It includes 5 Autonomous Republics and 11 regions, having an area of over 1,100,000 sq km, and a population of approximately 30,000,000 (including an urban population of over 19,000,000).

The region ranks fourth in the number of urban population after the Dnieper-Dniester, Central and Central Asian regions. For this reason here, too, the problem of organising suburban recreation is of primary significance. All of the largest cities of the region (Ulyanovsk—473,000, Gorky—1,358,000, Kuibyshev—1,226,000, Kazan—1,002,000, Saratov—864,000, and Volgograd—939,000) are located on the banks of the Volga River. The proximity of the largest river with a cascade of water reservoirs, and comfortable climatic conditions make it possible to extensively organise various types of recreational sports activities, especially water sports and fishing. Sandy beaches, a long bathing season, splendid forests and other favourable conditions allow the development of recreational health-building activities. Recreational and medical treatment develop on

the basis of a series of mineral springs, where such famous resorts have been created as the Tinaki resort in the Astrakhan Region, a very old balneological resort of Sergievskiye Mineral Waters in the Kuibyshev Region and a number of koumiss medical-treatment establishments.

The region has interesting tourist sites including the Lenin Memorial in the city of Ulyanovsk, the Battle of Stalingrad Memorial, cities closely associated with the ancient and modern history (Kazan, Kuibyshev), newly-constructed cities (Togliatti), and powerful hydroelectric stations. The beauty of the great Russian river makes a trip along the Volga especially memorable.

The presence of interesting sites, as well as a massive demand for the territory and water bodies for short and long vacations have shaped the special features of the region—the combination of educational tourism and specific recreational activities on river boats with health-building vacations (long and short) of the population of large industrial agglomerations situated along the Volga River.

It is quite natural, therefore, that local recreational institutions gravitate to the Volga, acting as an axis along which lies one of the largest territorial recreational systems of the country. This system is still in the making and is linear in shape (Fig. 21).

This region is noted for its developed network of recreation centres (ranking second in the country in their number), gardening societies (first place in terms of membership), hunters' and fishermen's hostels (fourth place), and tourist itineraries, that are serviced by water-borne tourist hostels. Constituting the core of medical and health-building institutions, recreation centres provide 55.6 per cent of the available accommodations while the figures for sanatoria and rest homes are 17.9 per cent and 19.4 per cent respectively. The proportion of the year-round tourist institutions is not large (7.1 per cent), but the water-borne tourist hostels that cruise along the river in summer should be added to them. It should also be noted that long shipping lines on the Volga have completely lost their significance as a passenger service and are now used for tourism and vacations.

The issues of recreational development of the Volga economic area are under careful scrutiny of several research centres. Their staffs examine questions connected with the

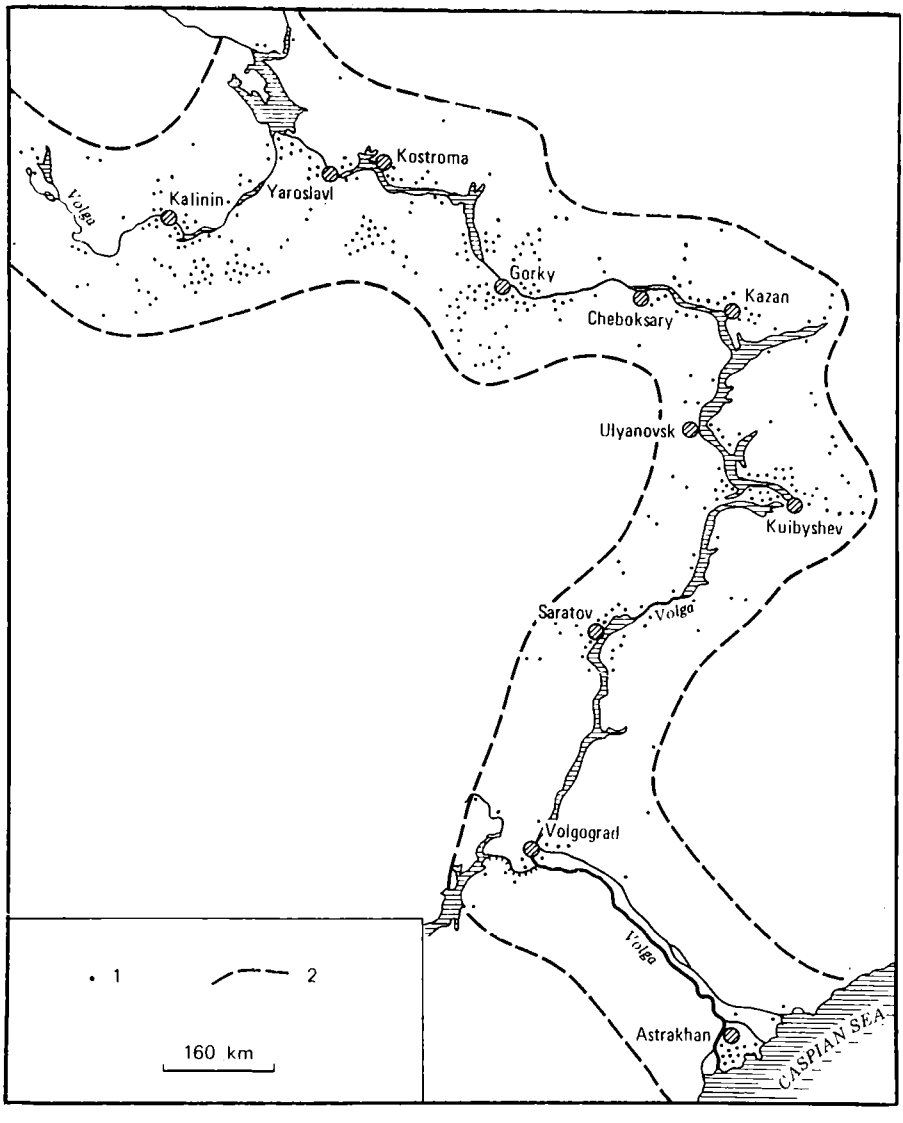

Fig. 21. Distribution of recreational institutions along the Volga (compiled by M. P. Chigrinets according to the material of E. M. Rakovskaya and N. M. Stupina).
1 — recreational institutions; 2 - boundaries of territory examined.

use of man-made water reservoirs, organisation of suburban recreation and catering.

The largest group of vacationers is made up of the population from the cities along the Volga, who spend their vacations (short or long) on the river and its shores. There are 90 days that are favourable for bathing at the mouth

of the Kama and up to 120 in the Astrakhan area. Fishing, rowing, and motor-boating are widely practised here. The rapid growth of a flotilla of small motor boats creates a number of problems connected with the protection of the environment (noise, accidents, pollution, etc.).

Up to 40 per cent of the population of the Kazan agglomeration spend their vacations in the suburban zone, which covers 6,000 sq km. The 700 recreational institutions located here accommodate 160,000 vacationers at a time. The pressure on some of the facilities of the suburban zone is very high; on the most popular beaches it is 5 to 10 times over the accepted quota.

The next large group are tourists travelling on special ships (there are about 80 itineraries available), as well as informal vacationers using the regular shipping lines.

Water-borne tourism in this region does not have an equal anywhere in the Soviet Union in the number of itineraries and the number of vacationers it services. There is a total of over 100 itineraries along the Volga and its tributaries, arranged by more than 30 councils for tourism and excursions, including those in Azerbaijan and Armenia. Councils that are located beyond the limits of the region arrange trips along the route Moscow-Astrakhan-Moscow and Moscow-Rostov-on-the-Don-Moscow. Itineraries organised by the regional councils that are located on the Volga and its navigable tributaries begin and end in the corresponding regional centres. In 1977, there were over 57,000,000 passengers travelling along the Volga and its tributaries on all types of boats, including over 450,000 on special tourist lines. If we take into account that two-thirds of the passengers were made up of vacationers who came here on their own without any previous arrangement, the overall tourist volume will reach almost the one-million mark. All the routes, as a rule, are of the tourist-excursion type.

There are 50 travel and excursion bureaus in the region which service approximately 13,300,000 excursionists annually. Over 3,300,000 people take part in the excursions arranged by the Volgograd bureau; the Gorky bureau services over 1,500,000, and the Kazan—1,200,000. The numbers serviced by the Ulyanovsk and the Kuibyshev bureaus approach 1,000,000, and the Kostroma and Saratov bureaus service over 500,000 each.

The Lenin Memorial in Ulyanovsk is of special interest

and each year attracts more and more tourists from all parts of the country and from abroad.

The third group, probably the smallest one, is made up of those who come to the Volga region for rest or medical treatment. If we do not count the transit itineraries along the Volga, there is today only one national tourist itinerary—"To the Volga Delta"—servicing 1,300 tourists during June-September. The local councils are responsible for arranging 30 itineraries, many of these being just a stay at a tourist hostel, which, in this case, functions as a rest home.

The Volga basin is a zone of long-standing and intensive development, which explains why the natural landscapes have been greatly altered here and in the majority of cases replaced by artificial ones. Many interesting complexes of urban architecture are also a feature of this zone. Particularly great changes occurred during the years of the construction of the Volga hydroelectric stations and water reservoirs, which transformed the river's appearance and greatly changed the adjoining territories (influencing the local climate, flooding whole areas, etc.).

Despite the generally monotonous flat country there are many hilly areas of exceptional beauty. These include the Volga and the Ergeni uplands. The Volga River valley has many terraces that often reach 100 m above sea level

The continental character of the climate is more pronounced in the south-east as compared to the north-west. For this reason the northern and the western parts of the region are noted for their snowy winter and a cool rainy summer, while the south-eastern part is characterised by little snowfall and a dry summer. In the areas between Volgograd and Astrakhan, the average monthly temperature in June, July and August is 21-24°C, and in the north (Gorky) it is 16-18°C. In the north-western part of the region the precipitation amounts to 650-700 mm; in the eastern—to 400-500 mm; in the southern—up to 300 mm; and in certain parts it is less than 200 mm.

A stable snow cover in the north of the region lasts for 154 days, and in the south for 101 days. South of Volgograd the snow cover does not exceed 10 cm.

The region has highly-comfortable conditions for the organisation of water-based recreational activities. The Volga River is the most suitable for this purpose, flowing

for 2,472 km within the limits of this region (from Kostroma to Astrakhan). Smaller rivers are not yet sufficiently used for recreation. The vacationers are attracted to these rivers by their tranquillity, the variety and beauty of landscapes, and the opportunities for fishing, hunting and picking berries and mushrooms.

Of great recreational significance are the large man-made reservoirs along the Volga that are suitable for water-borne tourism, aquatic sports, fishing and bathing. In summer, the shallow water warms up to 20°C.

There are many lakes in the region, the majority of them being oxbow lakes, and a fairly large number are sink lakes. Usually, in summer the temperature of the water in the lakes is quite high (approximately 20°C and even 30°C). The lakes may be used for fishing; several of them are mineralised (primarily in the south) and may be considered as medical-treatment resources.

South of Gorky and down to Volgograd (i. e., for a distance of approximately 1,700 km), there is a distinct contrast to be observed between the landscapes of the right and left banks of the Volga. The Volga Uplands stretching along the right bank have an abundance of caves, deep river valleys and ravines; its picturesque slopes are covered with forests and fields. The left bank is a flat, slightly hilly plain that alternates with boundless fields, lakes, marshes, pine forests and sandy river beaches. In some places further up to the north there are wild forests with their attractive little rivers. A fairly large number of forest settlements, and the neighbouring taiga forests of the Kirov Region that are rich in game, could serve as a basis for developing recreational activities here. Further south there are fewer forests and in Chuvashia they cover approximately one-third of its area.

The landscapes in the Kama area, where the widest part of the Kuibyshev Reservoir is located, are distinctive for their beauty.

The famous Zhiguli Hills are protected by the state as nature's unique sanctuary.

In the Saratov Region the Volga's stretch most suitable for mass recreational activities lies near Khvalynsk Ridge (picturesquely-dissected relief, good beaches, slopes covered with forests, etc.). In the Volgograd Region the Volga Uplands are a most inviting corner. In the west they border on the Khoper-Buzuluk Lowlands. The valley of the Khoper River

that flows here is exceptionally beautiful. Further south along the Volga the places of recreational activities are located on the Tsymlyansk Reservoir. These are narrow zones along the river beyond which steppes and the semi-desert landscapes predominate.

The Smidovich Reserve, located in Mordovia in the eastern part of the Oka-Klyazma Lowlands, is the northernmost of the four. Its purpose is to protect the woodlands of the southern zones. Its landscapes and karst phenomena are of great interest to vacationers and tourists. Further east lie the lands of one of the youngest reserves, the Volga-Kama Reserve, founded soon after the Volga had been dammed to fill a man-made reservoir. The reserve consists of two sections. The first, the Raif section, is only 25 km away from the city of Kazan. Its arboretum, which has over 300 species of trees and shrubs, attracts many excursionists. The second section, the Saral forest area, was created for the purpose of studying the influence of the Volga reservoir on the nature of the river zone.

The Zhiguli Reserve occupies the highest part of the Samara Bend of the Volga. At one time this was the site of vast pine and oak forests, but being unprotected for a long period they were substantially reduced. In the process of their restoration, they were replaced by less valuable species (aspen, birch and others). The dissected relief of this area creates the illusion of a mountainous country, and is one of its most attractive features.

There is a great variety of mineral waters and curative muds in the region. The following waters are most widespread: hydrogen sulphide, calcium-sodium sulphate, sodium chloride and ferrous sodium chloride. Mud deposits are found near springs containing hydrogen sulphide, and there are large deposits of silt muds. The northern part of the region abounds in peat muds, and the southern in silt and brine of Lake Elton.

There are many memorial places in the region that are associated with Lenin. One of them is Lenin's birth place—the city of Ulyanovsk with its remarkable memorial. The Volgograd Memorial is dedicated to the heroic feat of the Soviet people in the Great Patriotic War. There are also many memorial museums and points of interest associated with the life and work of outstanding people. In the city of Gorky there are the Sverdlov and the Gorky museums and in Sara-

tov—the Chernyshevsky museum. There are many architectural monuments in Kazan, Gorky and other cities.

At the present time modern industrial enterprises, installations, etc., serve as points of interest for tourists. In this respect excursions to the Gorky automobile plant, hydroelectric stations and water reservoirs are quite popular.

A characteristic feature of all the cultural complexes here is their location in large cities along the Volga. As a result of the seasonal operation of the Volga waterway they can be visited only in the warm period of the year.

In this recreational region sanatoria and rest homes are located close to centres where they are in demand, which can be explained by the fact that they have been built by large industrial enterprises and specialise in prophylactic treatment. The latter feature is also true of trade union sanatoria and rest homes. Thus, in the Gorky Region all of the sanatoria are located no further than 50 km from the city. Another feature of sanatoria and rest homes is a relatively small number of vacationers that they can accommodate (from 145 to 315). The majority of them operate all the year round. There are a little over 30 tourist hostels in the region, the majority of which are located in its northern part with nearly half of them operating the year round.

The Volga emerges as the principal artery of the transport network; railways and motor-roads connect all the large cities of the region and there is a regular airline service to the large cities and resorts of the Soviet Union.

The region is noted for its unique hydrotechnical installations the majority of which are used as recreational facilities (water reservoirs, canals, hydroelectric stations).

The Ural Recreational Region

The Ural region includes the Bashkir and Udmurt ASSRs, and Perm, Sverdlovsk, Chelyabinsk, Kurgan and Orenburg regions. Over 19, 200, 000 people, of whom 13,700,000 are residents of cities (the fifth largest number with regard to the other regions), live here on an area of 824,000 sq km. The region is distinguished by a high concentration of its urban agglomerations. Sverdlovsk and Chelyabinsk have a population of over one million each. Perm, Ufa and Izhevsk have almost reached this figure. All this has largely determined the specialisation of its recreational economy—provision

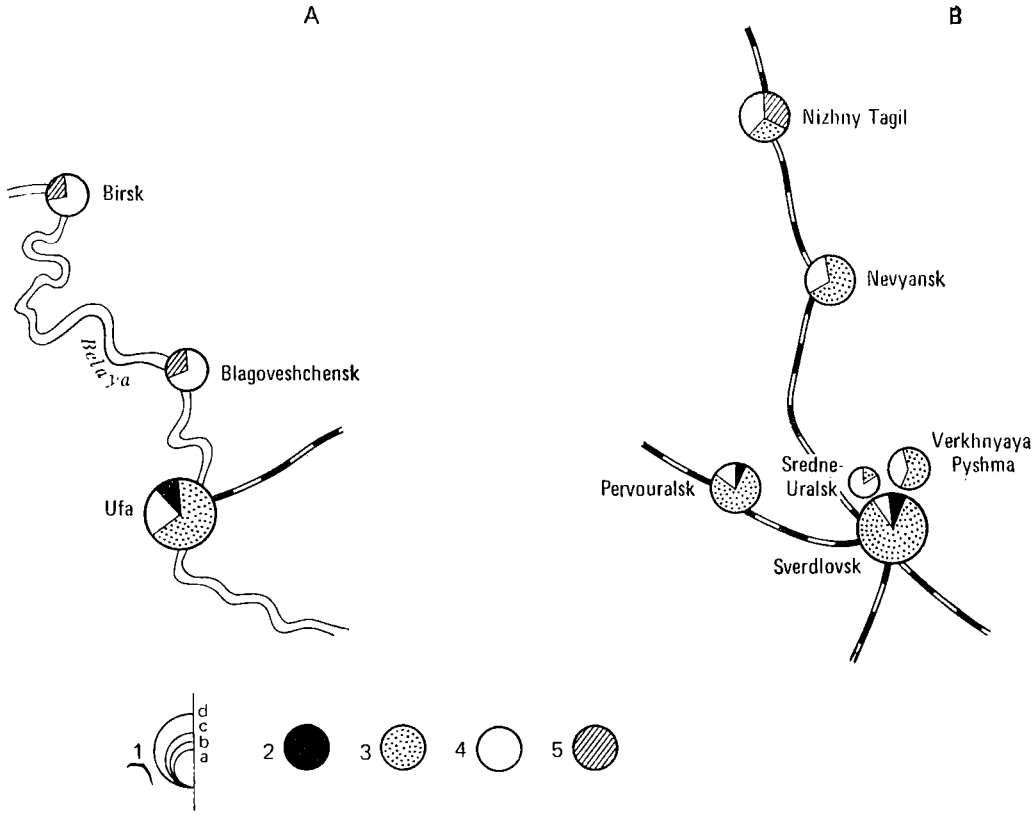

Fig. 22. Development of gardening societies around urban agglomerations of the Urals (compiled by Y. V. Vedenin and S. V. Panchuk). A—Ufa agglomeration; B—Sverdlovsk agglomeration. 1—area of gardening societies; a—up to 50; b—50-100; c—100-1,000; d—>1,000. Time of development of territory: 2—up to 1950; 3—1950-1960; 4—1960-1970; 5—after 1970.

of vacations for the local population. In the overall network of medical and health-building institutions of the region the recreation centres rank first (42.2 per cent of the available accommodations), followed by sanatoria and holiday homes with medical treatment (30.6 per cent), rest and holiday homes (18.4 per cent) and tourist institutions (8.8 per cent). Gardening societies are widely developed in the Ural region (Fig. 22). The hunting and fishing facilities account for 16.5 per cent of the country's total (ranking first in the country). There is a large number of summer Young Pioneer camps.

On a national scale the role of the region in terms of re-

creational services is negligible and is associated with tourism. It ranks last in the two European zones in the number of national tourist itineraries. But there are, nevertheless, a number of interesting sights that are on the national list: the Kungur and Kapova caves, the Ilmen Reserve, and old mining settlements which have been turned into museums.

The region has been poorly studied from the recreational angle. Main attention was devoted to the planning of medical institutions, the estimation of natural recreational resources, and the examination of the specific features of organising suburban recreation for residents of the Sverdlovsk, Ufa and Perm agglomerations.

The local population makes up the bulk of vacationers. These are primarily workers and employees of the Urals industrial enterprises. A comparatively large stream of vacationers goes to recreational Zone I, fairly large streams go to the Central and North-Western regions and to the Baltic Republics. Family trips to the Ukraine and to Moldavia are very popular, which can be explained by easy access, good climate, beaches and bathing facilities.

The flow of vacationers from other regions of the country is quite small. These are primarily tourists who come on their own. There are four national and 25 local itineraries in the Ural region. However, in contrast to many other regions, the local tourist itineraries are of a very active type, which to a certain degree limits the participation of people of the older age groups in them. A relatively small mobility of vacationers within the region may be explained primarily by a high concentration of recreational institutions close to population centres.

The external boundaries of recreational development of the Ufa and Sverdlovsk agglomerations tend to move in a centrifugal way, with their radii substantially differing in length—the radius of the Ufa agglomeration being 25 km and that of Sverdlovsk, 36 km.

In Chelyabinsk, the city's centre, its pine forest and the Shershnevskoye Reservoir are used for daily recreational activities. From 20,000 to 30,000 people visit the pine forest daily, and on weekends the number of vacationers approaches 100,000. The green belt of Chelyabinsk (some 6 km wide) is used for daily and weekly recreational activities. Man-made reservoirs and their beaches in the vicinity of

large cities are extensively used for suburban recreation (bathing, sunning, etc.), the pressure on them reaching its peak during good weather.

Excursions are arranged by 8 bureaus for travel and excursions and 26 excursion bureaus; sightseeing trips to the countryside are most popular.

The Urals, stretching from north to south over a significant distance, offer a variety of landscape. In the north there are hills with smooth contours and an average absolute height of 200-500 m, while in the south some of the peaks are higher than the 1,000-m mark and the relief is of a distinctly dissected nature. This region is characterised by a great deal of karst formations (500 caves and grottoes, among which are the famous Kungur and Kapova caves). The climate here is more humid and cool than in the adjoining plains.

The average length of the comfortable period for summer recreational activities and tourism in the northern part of the region comprises 20-30 days, in the central part, 30-40 days, in the Orenburg area, up to 50 days and in the very south it diminishes again to 30 days. The length of the favourable period for summer recreational activities and tourism varies from 60 days in the north to 120 days in the south. The bathing season lasts for 30-90 days. In the northern part of the region the thickness of the snow cover, from south to east, is 0.5-0.8 m and stays for 170-185 days. During the coldest season (December-February) the weather here is frosty or exceedingly frosty (75 per cent). Strong snowstorms (40 m/sec) make the use of mountainous areas at over 1,000 for recreational purposes practically impossible. In the south of the region (in the Ural and Transural areas) there are strong snowstorms in winter, but the snow cover reaches only 0.3-0.4 m and stays for 140-160 days. In contrast to the northern and mountainous areas, summers here are hot and dry.

The region has a ramified river network, whose recreational use is made difficult in a number of places because of the intensive use of water for farming and other purposes. But in some parts of the region, the river network is rather poor owing to local karst phenomena. At the same time a number of rivers are traditional sites for water-borne tourism (for example, the Chusovaya River). Lakes are rather scarce here, the majority of them being located on the east-

ern slope of the Urals, in the Chelyabinsk Region. The largest of them is Lake Uvildy with a water surface of 68.1 sq km. In the Iset River basin, there are approximately 800 sq km of lakes. The lakes are picturesque with steep wooded shores, they abound in fish (whitefish, carp) and some of them are used for recreational purposes. There is a large number of man-made reservoirs including the reservoir (extending for 220 km) at the Kama Hydroelectric Station, the reservoirs on the Chusovaya, Ural and Ufa rivers. There are many artificial ponds—the largest of them being the Verkhne-Isetsky near Sverdlovsk and the Nizhne-Tagilsky.

The natural features of the region (mountainous relief and meridianal position) and man-induced changes are the cause of its heterogeneous vegetation cover—mountainous tundra, dark coniferous and light pine forests, and a large number of secondary forests (birch and aspen). Forest landscapes predominate in the region's north (in Sverdlovsk and Perm Regions wooded areas comprise over 50 per cent of the territory, in the Bashkir and Udmurt ASSRs less than 40 per cent, and in the south of the Orenburg Region only 3 per cent). In the south the forests are replaced by the forest-steppe, steppe and semi-desert vegetation.

The region is suitable for developing hunting for sport (hare, marten, fox, squirrel).

There are comparatively few mineral springs here. Most frequently occurring are sodium chloride as well as calcium-magnesium hydrocarbonate waters. There are also acidic, iron-containing sodium sulphate-chloride waters with some aluminium and radon. The south of the region abounds in silt muds, sapropel muds are also used. In the north there are mineral peat muds. The region disposes of unique balneological resources in the form of natural hot steam (40°-50°C) and dry (50°-70°C) gases (carbon dioxide-oxygen, nitrogen oxides-nitrogen). The temperature of the gases at the top of the fissures is 37°-160°C, and lower down it varies from 80°-90°C to 300°C. As a rule, the balneological resources are found in a combination with curative muds, which makes it possible to organise multi-purpose resorts. It should be also noted that the region offers great opportunities for koumiss treatment.

The most interesting natural sights here include: the Kungur ice cave, the Divya cavern, the Spasskaya Hill on the outskirts of the city of Kungur, the Sylva Reefs on the

Sylva River (Perm Region); limestone outcroppings along the rivers Ivdel and Northern Toshemka (Sverdlovsk Region); a number of lakes, stands of dark coniferous taiga (Chelyabinsk Region); the Askino Cave and Glacier, and the relict pine forest on the Kadasa River (Bashkir ASSR). There are also two reserves: the Ilmensky Reserve (32,100 ha) is in the Chelyabinsk Region, and the Bashkir Reserve (72,100 ha), in the Baskhir ASSR. The famous Kapova Cave with ancient rock drawings is located in the Bashkir Reserve.

Cultural sights are distributed more of less uniformly throughout the region. However, a major portion of them is concentrated in large cities. A local studies museum, the Sverdlov memorial museum, museums devoted to Russian writers Mamin-Sibiryak and Bazhov, theatres and architectural monuments are all to be found in Sverdlovsk. There is an interesting museum in the old mining village of Visim, the birthplace of D.N. Mamin-Sibiryak. Generally, the cultural sights are associated with the industrial development of the Urals and its revolutionary past.

Many of the recreational institutions of the region operate the year round and are well appointed. These include sanatoria and rest homes, many of which are located near the large industrial agglomerations.

There are 26 tourist hostels, 15 of which are open the year round, but in winter they can accommodate a much smaller number of visitors. Many of the tourist hostels are houses or cottages of a permanent type. In summer some of the tourists are accommodated in tents. The regional administration of collective-farm resorts located in Perm operates a network of four sanatoria, over ten rest homes, health-building centres and Young Pioneer camps.

The region has a ramified network of railway lines (11,000 km) and motor-roads (112,000 km). Five railway lines cross the Ural Mountain Range, four of them passing within the limits of the region. Airlines connect the major cities of the region with Moscow, Leningrad and the Crimean and Caucasian resorts. Intra-regional air links are also well developed. The river transport is poorly developed, the exception being the western part of the region. Regular shipping lines operate on the Kama and Belaya rivers.

The region possesses favourable conditions for the organisation and construction of recreational institutions. It is located outside the permafrost and seismic zones, and mud-

flows or avalanches present no danger here. Extensive karst formations are the only obstacle to the recreational development of the region but even they are localised and well studied.

ZONE III

Zone III stretches from the Urals to the Pacific, excluding only the areas of the Far North. Over 22 per cent of the country's urban population are concentrated in this zone.

The process of the emergence of the recreational network has begun relatively recently. For this reason, a focal distribution of the recreational territories is characteristic for it.

The intensive economic development of the eastern areas of the country is posing the crucial problem of developing their recreational economy at a rapid rate.

The zone has a good outlook for establishing vast recreational grounds of the national park type (Baikal, Todja and others) which will attract the tourists from all over the world.

The combination of numerous mineral springs with pure mountain air makes it possible to develop here health resorts of national importance. There exist opportunities for water-borne tourism, mountain climbing, hunting and fishing. Special mention should be made of gigantic industrial projects: the Krasnoyarsk and Sayano-Shushenskaya hydroelectric stations, the Karakum Canal and many other structures of national significance.

At the present time the recreational network is basically oriented on satisfying the zone's internal needs. But intra-zonal recreational streams are significant: quite an intensive exchange is taking place between certain Siberian and Central Asian regions and within Central Asia itself. The intra-zonal recreational streams can be explained by natural factors, which make it possible, for example, for Siberians to use the longer warm period of Central Asia. The cores of self-contained recreational formations are in the initial stages of their development. In Siberia this is the Baikal area, the south of Krasnoyarsk Territory and Tuva, in Central Asia—Lake Issyk-Kul and the ancient cities.

The structure of the local population, which is characterised by a high proportion (as compared to the country's

average) of large families, determines its leading role in shaping the demand for recreational grounds within the zone. At the same time, it should be expected that the development of the transport network will increase the flow of vacationers from other zones, primarily to national parks. The creation of the latter is a project of great significance, which will lead to a more even distribution of vacationers among the zones in the immediate future.

Sanatoria and holiday homes with medical treatment (37.7 per cent) lead in the number of accommodations in the zone. They are followed by rest and holiday homes (24.4 per cent) and recreation centres (24.1 per cent). Tourist facilities rank last in the number of accommodations even though their percentage is comparatively high (13.8 per cent). The zone ranks third in the country in the available capacity of the principal functional types of recreational institutions, with the exception of recreational facilities for children, gardening societies and mountaineering camps (second place in the country).

There are two distinct parts in this zone: one embracing Central Asia, and the other a string of cities along the Trans-Siberian Railway.

At the present time, the Central Asian part has the largest capacity of its recreational network, concentrating within its limits approximately 50 per cent of all the accommodations of the zone and 6.7 per cent of the available accommodations at recreational facilities of the entire country, and thus occupying the seventh place in the USSR as a whole.

The Central Asian Recreational Region

Over 35,000,000 live in this region and their number rapidly increases because of the highest rate of the population growth in the country. The population of the cities is growing apace, and there are cities whose population has already exceeded the one-million mark. The region ranks third among the recreational regions in the percentage of the urban population (11.4 per cent of the country's total). Thus, the organisation of leisure activities of the local population and weekend suburban recreation begin to play an important role in Central Asia.

For the residents of the other regions of the country, Central Asia is primarily associated with the world-famous ci-

ties of Samarkand and Bukhara and their unique architecture, with the unusual contrasts of nature, and with a rapid development of its culture and economy.

Owing to its natural, socio-historical and economic characteristics, the region is highly promising as regards the development of various functional types of recreational systems of local, national and international importance. Of national importance are the Issyk-Kul group of resorts,

Table 7

The Future Demand for Year-Round Recreational Institutions and How It Will Be Met in the Issyk-Kul Area
(Compiled by Bikmukhametova and Martsinkovsky)

Republics and major regions	Population by the year 2000 (mln.)	Total requirements (thous.) with a quota of 5 places per 1,000 population	Including those who could be accommodated in the Issyk-Kul area	
			%% of all requirements	Number of places in thous.
Kirghiz SSR	5.1	25.5	50.0	12.5
Kazakh SSR	22.7	113.5	10.0	10.0
Uzbek SSR	22.4	112.0	8.0	9.0
Tajik SSR	5.3	26.5	1.0	0.3
Turkmen SSR . . .	4.2	21.0	1.0	0.2
Urals	20.3	101.5	1.0	1.0
Western Siberia . .	17.7	88.5	6.0	5.0
Eastern Siberia	10.1	50.5	1.0	0.5
Others	—	—	—	1.5
Total	107.8	539.0		40.0

the resort of Bairam-Ali, 20 tourist itineraries, the capitals of Central Asian Republics and a number of ancient cities, which attract foreign tourists.

During recent years the amount of scientific work devoted to problems of the organisation of recreational activities in the region has increased noticeably. The institutes of the resort treatment and physical therapy have long been conducting extensive research on the use of local natural resources for medical treatment. The significant part of the research is dedicated to climatic treatment. The influence of meteorological factors on the thermal regime of the body of

man was studied in detail. The Issyk-Kul recreational grounds received special attention of the researchers.

The Issyk-Kul group of resorts is a leading permanently functioning centre of medical treatment and recreation. Its network of 164 institutions (58.8 per cent of Kirghizia's total) includes 8 rest homes, 53 holiday homes, 49 summer recreation centres, 7 tourist facilities, 12 sports and health-building centres, and 35 Young Pioneer camps. It is planned to further expand the facilities of the Issyk-Kul resorts making them available to vacationers from other Central Asian Republics as well as from Siberia and the Urals (Table 7).

According to the calculated data for the year 2000, the Issyk-Kul resort area should have 160,000 accommodations of which 44,000 should be available round the year. It is planned that 65 per cent of all the accommodations will be concentrated at recreational and tourist facilities.

The organisation of suburban recreation is of particular significance for the Central Asian region. The reason for this is a relatively high level of discomfort of urban microclimatic conditions and a deficiency of recreational grounds in the suburbs of the major cities (Fig. 23). Only 2.5-3 per cent of the more than 1.5-million urban agglomeration of Tashkent engages in outdoor recreational activities. This low percentage may be explained by the inadequate development of suburban recreational activities. A survey of public opinion in Tashkent indicated that many of its citizens were willing to engage in active recreational pursuits. Thus 40.7 per cent wanted to spend their weekends on two-day hikes, 20 per cent—to go on excursions to Bukhara and Samarkand, 17.3 per cent—to spend their free time at lodges for fishermen or hunters, 12 per cent—to go to the Ferghana Valley, 9.7 per cent preferred to engage in tourism on their own, without any previous arrangements or bookings. The following age brackets were embraced by the poll: 16-24 years—49.1 per cent, 25-34 years—26.5 per cent, 35-49 years—24.5 per cent.

The tendency of the local population to spend their long vacations outside this region should be taken into account. According to the poll, 52.3 per cent of Tashkent's citizens wanted to spend their vacations outside the Uzbek Republic—they chose the Crimea and the Caucasus (52 per cent) for medical treatment or health-building recreation. Among

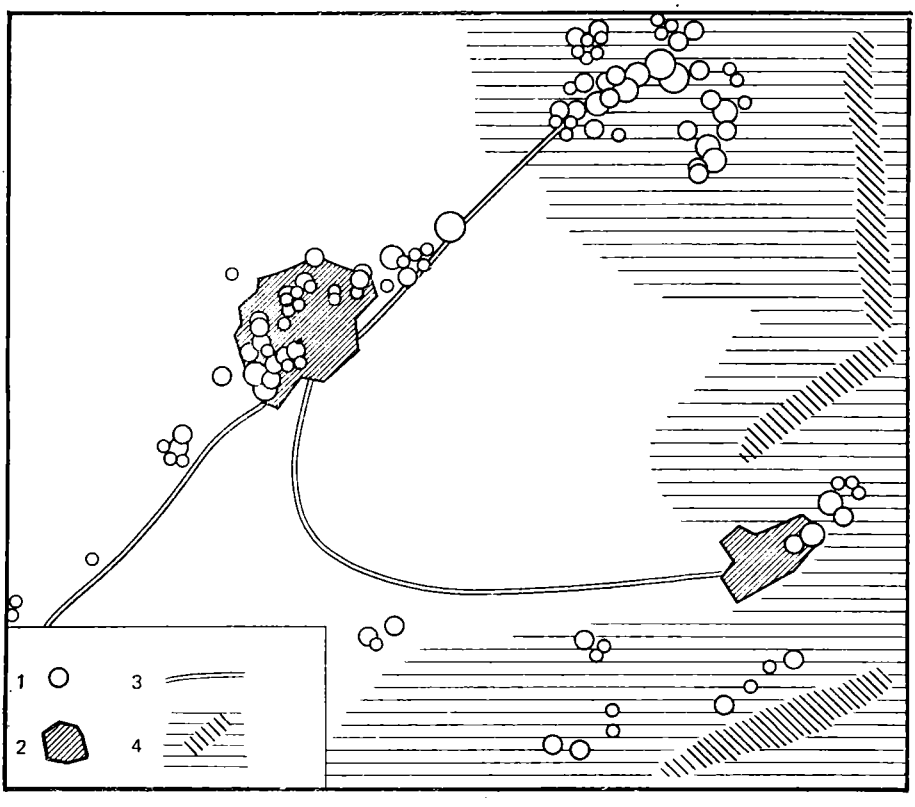

Fig. 23. Distribution of recreational institutions in the Tashkent Region (according to B. G. Ziyamukhamedov, 1978).
1—various recreational institutions; 2—city; 3—highway; 4—foothills and mountains.

the national tourist itineraries the most popular are to the Volga area (40.5 per cent), Eastern Siberia (27 per cent), the Grimea and the Caucasus (22.8 per cent).

There are approximately 60 excursion bureaus and bureaus for travel and excursions in the region. They are distributed proportionally to the population, i. e. the majority of them are in Kazakhstan and Uzbekistan (23 and 24 in each), 5 are in Turkmenia, 4 in Kirghizia and 2 in Tajikistan. The Frunze Bureau for Travel and Excursions ranks first in the number of excursionists catered to (912,000), followed by the Alma-Ata (893,000), Tashkent (761,000) and Samarkand (666,000) bureaus; other excursion bureaus service less than 500,000 annually.

Eighteen national tourist itineraries pass through the region, most of them embracing visits to the capitals of the

Central Asian Republics and other cities, only 4 of the itineraries lead to mountain areas.

The republican councils for tourism offer over 60 itineraries of which the most popular are to Lake Issyk-Kul, the man-made Tajik Sea, the Ferghana Valley and the mountain areas. In contrast to national itineraries they embrace a lesser number of visits to cities. As a rule, national and local itineraries are conducted during the warm season of the year.

The Kazakh, Kirghiz and Uzbek republican councils arrange trips and travels outside their republics—the Black Sea cruise, for example. The Kazakh Council also arranges two river tours—along the Yenisei and the Volga. The Central Asian region offers 95 railway itineraries, mainly to the Baltic Republics, the Ukraine, the Caucasus, and the Lenin memorial places. The Kazakh and Turkmen councils arrange specialised excursions for schoolchildren of senior grades. The Kazakh Council leads in this respect with its five such remarkably versatile and mobile tours. The 17 tourist hostels and hotels in the region give lodgings to motor tourists.

The sea coasts, deserts, oases, mountains with their forests, alpine meadows and glaciers, mountain streams and lakes, mineral springs, the region's rich flora and fauna combined with its climate offer great opportunities for various forms of recreational activities and medical treatment. Even the hottest and largest deserts of the Soviet Union can become grounds for recreational use.

The temperature in July in the southern areas of the desert is 30°-32°C, in the northern, 26°-28°C; in January it drops to zero or + 2°C in the south and — 10°-12°C in the north. The annual precipitation does not exceed 200 mm. The relative humidity of the air during the day-time in the summer months does not exceed 20-30 per cent and may drop to 10 per cent or more. Low humidity makes it easier to bear hot weather and creates favourable conditions for the treatment of certain diseases.

In the Central Asian flat country the incidence of clear skies during the warm season is exceptionally high (90-95 per cent), and the average annual number of sunshine hours reaches 2,400-3,000. The coastal zone of the Caspian Sea, Lake Balkhash and the southernmost areas are noted for hot stuffy weather (over 50 per cent of the days); for the

coasts of the Aral Sea and some parts west of it, the figure is 30-50 per cent, and for the rest of the region it is 10-30 per cent of the days.

The Soviet Union's highest mountain peaks (the Peak of Communism—7,495 m, the Victory Peak—7,439 m, the Lenin Peak—7,134 m and others) and the largest glaciers (Fedchenko—70 km, Inylchek—57 km) are found in the region. The mountains are distinguished by a cool or cold summer, and a cold or very cold winter with a large amount of precipitation (800 mm or more annually). The intermontane depressions, on the other hand, have a dry climate, warm summers and an abundance of sunny days—for example, the Issyk-Kul intermontane depression with Lake Issyk-Kul's waterline at 1,623 m above sea level. The factors at work here are the relief (closed depression) and the warming effect of the non-freezing lake. The annual temperature here is always above zero (4°-8°C); in summer the temperature of the upper layers of the lake's water rises over 20°C, and its salinity indicator is 5.8 per cent. The climate here is dry with 100 mm of precipitation on the western shore and 800 mm on the eastern. The lake abounds in fish. All this goes to say that the greater part of the lake's shores is exceptionally valuable for organising medical treatment-cum-recreational activities. The lake itself and the country around it can be used for sports, various outdoor activities and sightseeing on a vast scale.

There are many lakes in Central Asia, the largest of them being the Caspian Sea. Over 80 per cent of the lakes lie on flat country, and warm up very well during summer, with the maximum temperature of water rising to 28°-30°C. The average monthly temperature of water in Lake Balkhash for a period of three months (June-August) remains over 18°C. More than 30 lakes of Kazakhstan have curative muds and brine (Karasor, Auliesu, Kishikaroi, Kudaikol, Inder and others), and many of them may be used as hunting grounds (Sarykopa, Kurgaljin, Zhaksy-Alakol and others).

The region's rivers are unevenly distributed over its territory. In the plains of Northern Kazakhstan the density of the river network does not exceed 3-5 km per 100 sq km, while in the mountains it reaches 20-40 km per 100 sq km. However, their unbalanced water regimen prevents using the majority of them for recreational purposes. In summer

the temperature of water in rivers flowing through plains rises to 18°-20°C in July in the north and to 22°-24°C in the south, reaching a peak of 28°-30°C, when many of the rivers dry up. Mountain streams, owing to their strong currents, rapids, and low temperature (from 0° at their sources to +10 or +12°C at their exit points from the mountains) are no good either for bathing or for a wide range of other recreational activities, being used mainly for sports and water supply. Aquatic sports can be promoted by creating artificial reservoirs.

Mineral springs differing by the chemical composition of their water are distributed unevenly over the territory of the region. The Southern Pamirs and the Central Tien-Shan abound in carbonate springs (Garm-Chashim, Barshor, Bakhmyr, and others) and sulphide springs occur in Lyuchei and Obi-Shifo. In Kazakhstan many of the mineral springs containing valuable microelements (bromine, iodine, radon and others) and thermal waters (1,000,000 million cu m) occurring over an area of 900,000 sq km may be used for balneological purposes. Kirghizia is famous for its radonic springs in the intermontane basin of Issyk-Kul (Djety-Oguz), and there is a great deal of them in Kazakhstan. At only two spas in Kazakhstan the daily radonic water yield is 3,544 cu m. The respective figure for a single sulphide water spa in Turkmenia is 864 cu m. There is thermal mineral water in the environs of Tashkent which is bottled and supplied to other republics of the Soviet Union.

The highest mountain ranges of this region, its glaciers, high peaks and mountain streams with their rapids are the main attraction for mountain climbers. The region ranks second in the country for the development of mountain climbing. Several interesting caves have been discovered and explored here recently and some of them are today visited by tourists. More and more often desert land becomes a site of sports activities and tourism for education.

Many of the most interesting natural sites are turned into reserves and can be used for nature study trips. The majority of the 15 existing reserves are situated in the south-eastern part of the region and differ in the purpose they serve. For example, the Gasan-Kuli Reserve (69,700 sq ha) situated on the south-eastern shore of the Caspian Sea protects water fowl; the Repetek Reserve (34,600 ha) protects the typically desert landscape, and the Tigrovaya Balka Reserve

in Tajikistan is famous for its variety of landscapes with unique vegetation and animal world. There are many places in the region where national parks could be created, but for the time being there exists only one such park near the city of Frunze.

Man-made water reservoirs are of particular significance for organising leisure activities in the plains and foothills of the region. The water reservoirs in the vicinity of Tashkent are used for suburban recreation. There is a tourist hostel of national importance on the Kairakkum reservoir near Leninabad in Tajikistan. There are excellent beaches, gardens, orchards and vineyards here, and water is warm throughout the summer (26°C).

Central Asia is one of the most ancient places of human habitation. Uzbekistan is world-famous for its architectural sights (Samarkand, Khiva, Bukhara, Shikhrisabeh and others). For 15th-18th-century monuments and ensembles pride of, place should go to Samarkand with its Bibi-Hanym mosque of wondrous beauty, Tamerlain's Gur-Emir tomb, the Reghistan Square, Ulugbek's observatory, etc. Other Central Asian Republics also have ancient cultural and architectural sights to offer. Central Asian cities of the Soviet Union are of distinctive beauty combining modern architecture with local colour. Modern hydrotechnical installations and giant industrial complexes can also be regarded as recreational sites. The Central Asian region has over 70 museums and more than 60 theatres to offer.

In contrast to the European part of the USSR, Central Asian recreational facilities are concentrated around republican capitals and large population centres, and gravitate towards transport arteries. Of the seven sanatoria in Uzbekistan, for example, three are located in Tashkent or on its outskirts and two sanatoria are 30 and 60 km from the city. As a rule sanatoria function all year round, and are comfortably housed in five-storey buildings. Most of the rest homes are also all-year-round establishments, housed in bungalows or two- and three-storey houses. The grounds of rest homes are full of greenery, have ponds and pools, and are accessible by railway or motor-road. The majority of the tourist hostels are open only in summer and are equipped with small summer cabins, and tents. Some of the tourist hostels, especially in cities, are open throughout the year and offer accommodation at hotels.

The region's transport network (rail and air lines, and motor-roads) makes many of the recreational sites easy of access.

High mountain roads are essential for organising recreational activities in mountain areas of Tajikistan, Kirghizia and other republics.

Railways are highly instrumental in arranging excursions to Tashkent, Ferghana, Samarkand, Bukhara, Dushanbe, Charjou, Ashkhabad and other cities.

The recreational development of the region encounters certain difficulties. Its plains and mountains are located in a seismic zone. Mudflows, avalanches, rock falls, pulsation of glaciers, etc., occur rather frequently. Mountain sickness and overheating of the body are also among the hazards the tourist should take note of.

The development of intermontane basins, such as the Issyk-Kul, presents particular difficulties. The blind drainage of the basin and closed air circulation pose a serious problem for the sanitary upkeep of recreational and other facilities, and limit the basin's recreational capacity. For these reasons the flow of vacationers here has been taken under control.

The public services have their distinct Central Asian features (cuisine, lodgings, etc.), which are to figure prominently in the developing recreational economy of the region. Several recreational foci are definitely taking shape of late: the Issyk-Kul group of resorts (medical treatment and tourism), the south-eastern mountain areas (mountain hiking and mountain climbing). The capitals of all the republics and the cities of Samarkand and Bukhara are emerging as national centres of educational tourism. Suburban recreation zones are organised on man-made reservoirs, the Kara-Kum Canal, etc. The extensive recreational development of the Caspian coastal area is a matter of the not so distant future.

Siberia

The peculiar population structure, linear pattern of settlement, transport network and natural conditions allow to group the Siberian regions into an independent sub-zone.

Sanatoria, just like in Zone II, were the first facilities to be built here. Most of them are located in Siberia's main belt of settlement and concentrated close to their market of

demand. Simultaneously, a network of specialised medical facilities was taking shape in areas known for their mineral springs and curative muds (Belokurikha, Shira, Darasun and others). But for quite a long time Siberians who needed specialised medical treatment went to the resorts of Zone I. Siberia's recreational streams, as a rule, did not go any further than the local administrative boundaries. Informal recreational activities were quite frequently associated with picking berries and mushrooms, and leisure time was used for gardening.

With the rise of living standards, urbanisation and the development of the transport system, the role of organised tourism has grown immensely. An increase in the number of national and local tourist itineraries, and tourist hostels is proof of this. More and more attention is given to making medical facilities more comfortable and to providing a wider range of services. Recreation centres are now functioning much longer during the warm season, and a growing number of other recreational facilities is switching over to the all-year-round schedule. Intra-regional exchange of vacationers and the streams of vacationers leaving the zone have increased.

Each year Siberia attracts more and more tourists from other zones. This explains the crucial importance of providing new recreational grounds and accelerating the tempo of development of the tourist industry. National parks will play an important role in the recreational network. In Siberia conditions are exceptionally favourable for their creation and several projects are ready to be materialised in the Baikal area and the upper reaches of the Yenisei. These parks will be unique as regards their wonderful combination of landscapes.

The Ob-Altai Recreational Region

This region includes the southern parts of the Tyumen and Tomsk regions, the Omsk, Novosibirsk and Kemerovo regions and Altai Territory. Its population is 12,500,000. Besides its major cities, including Novosibirsk (1,328,000) and Omsk (1,028,000), there are over 60 towns and 140 population centres of the urban type with more than 8,500,000 residents.

From a recreational point of view, this region is the most

developed among the other Siberian regions. It ranks firs in the development of all the functional types of recreational institutions. According to the number of available accmmodations recreation centres occupy the first place (42.6 per cent), followed by sanatoria and holiday homes with medical treatment (28.2 per cent), rest and holiday homes (19.4 per cent), and tourist institutions (9.8 per cent). In Zone III the region ranks first in terms of accommodation at recreation centres and in the number of gardening societies. In the number of hunters' and fishermen's hostels it yields only to the Ural and Central regions. The region is very promising as regards the development of mountain and water-borne tourism.

Exploration and assessment of balneological resources were the main objects of recreational studies of the region. Certain specific questions pertaining to the development of resorts were studied by medical institutes. A number of researches dealt with the development of tourism and recreation in certain areas.

Studies carried out in the 1960s showed that the majority of vacationers (not less than 50 per cent) spent their holidays close to their permanent place of residence. The second largest stream (13-17 per cent) of the vacationers goes to warm regions by the sea. Such a distribution of vacationers may be primarily explained by the remoteness of the region from the seaside resorts of the Caucasus, Ukraine and the Baltic Republics. For families which have children over 10 years old a trip to the sea requires substantial expenditures. The warm regions of Central Asia are still poorly utilised. This may be explained by an insufficient number of recreational facilities in the Central Asian region. There is also another reason: Siberia's residents have been accustomed to using their vacation for hunting, fishing and gathering berries, mushrooms and nuts.

The influx of vacationers from other regions is still quite negligible. They go mainly to the mountain areas. Thus, the Gorno-Altai Autonomous Region with a resident population of 168,000 is visited by 90,000 vacationers in summer.

With the growing number of private cars and boats there should be an increase in the stream of vacationers (residents of south-eastern parts of the region—Novosibirsk, Novokuznetsk, and possibly Tomsk) travelling by car to the mountain

areas, and by boat—to the north of the flatland part of the region.

In the region there are 12 bureaus for travel and excursions and excursion bureaus which service approximately 2,500,000 a year. The bulk of services to excursionists is provided by the Novosibirsk Council for Tourism and Excursions (approximately 726,000), followed by the Altai (578,000) and Omsk (478,000) councils. The bureaus arrange excursions through the cities (93), to the countryside (51), to factories (62) and to museums (42).

There are five national tourist itineraries in the region passing through the Altai Mountains (June-August), in which 7,400 tourists participate during a season. There are also 18 local itineraries (including 11 through the Altai Mountains), the majority of which are organised in summer (June-August,) one itinerary for skiers (January-March) and one winter itinerary (January-February). The local bureaus offer 24 railway itineraries and 6 excursions by boat.

The natural conditions of the region make it possible to conduct all of the four functional types of recreational activities.

There is an abundance of sunny days and a relatively small amount of precipitation in the flatlands of the forest-steppe and steppe zones where the larger cities are located. The number of sunshine hours increases from the west to the east (from 1,400-1,700 to 1,500-2,000 hours annually). The duration of the period with an average daily temperature of +10°C and over ranges from four months in the forest-steppe zone to 4,5 in the steppe (May-September). Strong frosts are quite rare, and the cold season is marked by calm frosty weather with clear days and insignificant fluctuations in the atmospheric pressure. A stable snow cover (30-60 cm thick) stays for approximately 5.5 months (from the beginning of November to the middle of April). The maximum amount of precipitation occurs during the summer months (July-August), but the average monthly temperature during this period is quite high (17°-19°C). High summer temperatures make the water in rivers and lakes, especially in reservoirs, considerably warm.

The mountain areas have a moderately warm summer and a calm, sunny and frosty winter. In the intermontane basins, winters are usually very cold and summers are fairly warm. In the mid-mountain forest belt the air is exceedingly

clean with a high ionisation factor. In the wide intermontane valleys of the Altai, the average annual number of sunshine hours reaches 2,634. The weather and climatic conditions of the Altai in general are extremely favourable for resort development. The climatic conditions for medical treatment are particularly good in certain parts of the mountains which has already been confirmed by the splendid results of such treatment. These results may be favourably compared with those attained at the best TB resorts of the Soviet Union.

Over 400 lakes have been studied in the region with a view to using them for recreational purposes. These are lakes of the three basic types: silt, sapropel and alkaline peloid. In the forest zone, the mineralisation of the lakes does not exceed 1 gr/l; in the steppe it ranges from 35 to 300 gr/l with a thickness of silty hydrogen sulphide muds of 30-50 cm.

In the Tyumen Region the best known are the Lake Akhmanka sapropels (over 10,000,000 tons) and the clay sapropels of the Armizon area (up to 8,000,000 tons). In the Omsk Region the muds of Lake Uldjai and Lake Ebeita, which have practically inexhaustible deposits, are studied for practical uses. The muds of Lake Gorkoye and Lake Kureinoye (with deposits of over 3,000,000 tons and a mineralisation of 132 gr/l) and a number of others are also promising for resort development. The Novosibirsk Region (the Karachi Lake resort) is rich in curative muds. In Altai Territory, the lakes not far from the city of Slavgorod may be used for the same purposes. A large number of mud lakes have been discovered in Kulunda, but their regimen is changeable and depends on weather and climatic conditions.

Many of the mineral springs are unique in their quality. Thus, the waters of the West-Siberian artesian basin in the flatland part of the region are distinguished by a high concentration of iodine (10-25 mg/l) and contain bromine, hydrogen sulphide and other components. The wells yield some 1,000 cu m per day, and in certain cases 3,000 cu m per day. There is also a group of radioactive springs. One of the most famous national resorts is Belokurikha, which has several wells of weakly-mineralised siliceous radon water (from 5 to 37 Mache units) as well as hydrocarbonate-sodium sulphate water with a temperature of approximately 40°C. Their total yield reaches 5,000,000 l/day. In Kolpashovo District of the Tomsk Region, the Chazhemtov mineral spring

is well known. Its water contains chloride, sodium, iodine (up to 8.5 mg/l) and bromine (up to 53.5 mg/l) and is highly mineralised (up to 19.5 gr/l). The water of the Chazhemtov spring is similar to the Matsesta type of water in its composition. The climate here is fairly severe and is good for training or hardening the organism. Near the Lake Karachi resort in the Novosibirsk Region, there are wells yielding mineral sodium-chloride water which is analogous to the Yessentuki No. 4 type.

The recreational and health-building cycles are oriented towards winter types of leisure activities and to various forms of walks and excursions to the countryside. In this respect, the mountains located on the edge of the region are of particular value (Salairsky Ridge, Kuznetsk Alatau, Gornaya Shoria, Altai). The foothills and low mountains are used for skiing. The mountainous forest regions attract people who like walking, and gathering berries and mushrooms. There are many sites suitable for bicycling and boating. The water routes may operate 5 months on an average (May-September). The skiing season also lasts 5 months on an average (from the beginning of November to the beginning of April).

Owing to the rather severe climatic conditions, bathing is possible on a limited scale. The period with a comfortable water temperature (over 18°C) does not usually exceed one month and only in case of some sun-heated lakes and water reservoirs this period lasts two or more months. The bathing is hindered by an abundance of bloodsucking insects (mosquitoes, black flies).

There are good perspectives for sports, tourism, hunting and fishing. The Altai Mountains have 11 peaks of from 2,500 to 4,500 m above sea level, and several glaciers approximately 10 km long. The Altai rivers are used for aquatic sports (rafting for example).

The flatland areas of the region offer good opportunities for hunting (fox, hare, water rat, wild game) while the local lakes are good hunting grounds for wild water fowl. Rivers, lakes and reservoirs are used for fishing activities.

The Altai with its unique nature—rivers, lakes and mountain forests—is known for interesting tourist sites.

Cultural and historical sights, and industrial and scientific complexes are well represented in the region. Rare archaeological monuments such as the Pazyri mounds in the

Chulyshman basin (whose age is 2,500 years) and the "Stone Women" in the central part of the Altai (8th cent.) have been preserved to our day. Many of the architectural and historical monuments are associated with the early period of the development of Siberia. These are Tyumen (1586), Tobolsk (1587), Tomsk (1604), Kuznetsk (1617) and other old cities. Buildings of the 18th and 19th centuries have been preserved in Tyumen. Tobolsk is famous for its Kremlin, the only one in Siberia. There are many sites on the outskirts of the city, connected with the expeditions of Yermak. Akademgorodok in Novosibirsk with its unique complex of research institutions is important as a site of educational tourism.

However, the organisation of tourism for sport and education encounters a number of obstacles since April-May and October-November are no good for tourist ventures. The weather is higly unstable in the mountains in spring; avalanches are quite frequent in April, followed by the rise of the water level, making it impossible to cross rivers or to float on rafts. Ticks which spread encephalitis appear in May and June and later (up to September inclusively) there are swarms of midges. The summer high precipitation level (July-August), even though it does not create any particular difficulties (rains, as a rule, last not more than 2-3 days), requires that precaution should be taken when choosing camp sites or floating on rafts, etc. Considerable daily temperature fluctuations, especially during the autumn months in the mountains, require the necessary equipment. The winter period begins in October-November in the mountains and is often accompanied by bad weather.

All of the sanatoria and rest homes of the region are located not more than a two hours' trip from large cities, and many not more than 20 km from the city. The majority of the rest homes function all the year round, with a certain decrease in their capacity during the winter period. There are 13 trade union tourist hostels in the region, 10 of which are open all the year round.

A great deal is being done for the further development of the recreational network of the region. For example, the Belokurikha resort and the Barnaul sanatorium, each with the accommodation capacity of about 4,500 beds in 1980, will have 6,050 accommodations each by the year 1990. In 2000 a balneological resort accommodating 1,000 visi-

tors will be built near Lake Kulundinskoye, and the mountain resort of Chemal will be expanded to accommodate 4,500-5,000 vacationers. In the Novosibirsk Region the accommodation capacity of the Lake Karachi resort will be increased to 5,000 places. It is also envisaged to make a better use of the coastal areas of the man-made Ob Sea where sanatoria (of the prophylactic type) accommodating 2,500-3,000 will be built. Many new facilities (medical and recreational) are in the blueprints for the Kuzbas, Tomsk and Omsk regions. The Altai Mountains will be developed as a big tourist centre where by 1990 it is envisaged to build 12 tourist hostels accommodating 8,000.

Owing to local climatic conditions all engineering installations and buildings are designed with an eye to the local seismic hazards, avalanches, rock falls, etc. All modes of transport are used here.

The Trans-Siberian Railway crosses the region from west to east. Parallel to the railway, in the south-eastern part of the region, runs a highway (Novosibirsk-Barnaul-Biisk-Gorno-Altaisk-border of the Mongolian People's Republic). The south-eastern part of the region (Gorno-Altai Autonomous Region, Kemerovo Region) holds first place as regards the density of the railway and motor-road network, followed by the Omsk and Tomsk regions. This recreational region has a direct link with Central Asia by rail. There is also a ramified network of navigable rivers with regular shipping lines (Novosibirsk-Surgut, Tomsk-Kargasok, Omsk-Salekhard), with a total length of 2,741 km. All the region's big cities have air links with the Soviet Union's big cities and resorts. Novosibirsk, for instance, has air links with 69 cities.

Recreational activities have reached their differentiation phase: tourism is extensively developed in mountain areas, separate medical institutions are also located in the mountains, in the vicinity of mineral springs. The development of climatic resorts is envisaged in the low- and mid-mountainous areas. Facilities for long and short vacations are concentrated around reservoirs, both on the plains and in the foothills.

Recreational activities here are guided by the Altai Territorial Council for the Management of Trade Union Resorts, the Kemerovo, Omsk, Tyumen regional councils and Novosibirsk Territorial Council, which is also in charge of the Tomsk

Region. The Altai Territorial Council for Tourism and Excursions, the Kemerovo, Novosibirsk, Omsk, Tomsk and Tyumen regional councils are in charge of tourist activities.

The Yenisei Recreational Region

This region occupies the southern part of Krasnoyarsk Territory (roughly south of the city of Yeniseisk) and the territory of the Tuva ASSR (a total of 743,500 sq km). This is where all of the large industrial cities (with the exception of Norilsk, Dudinka and Igarka) and population centres of Central Siberia are located. Its population is over 3,300,000. The Yenisei region stands out among the other Siberian regions for its high level of industrial development (Central-Yenisei complex, Kansk-Achinsk fuel and energy complex, Sayan territorial-production complex and others), for a ramified railway network, huge water reservoirs and waterways, a wealth of recreational resources, the best climatic conditions for the residents and the development of local agricultural base.

Recreational facilities of the medical type predominate in the region, but in terms of accommodation per 1,000 population it is behind the Baikal region. The huge Sayany territorial-production complex with a large share of its workers being young people, promotes the development of active forms of recreation (tourism, fishing, hunting, etc.).

The region's central location in Siberia and a well-organised transportation system make it one of the leading recreational regions here.

In the network of recreational facilities first place goes to sanatoria and holiday homes with medical treatment (43.6 per cent of the available accommodation), then come various tourist centres and hostels (24.5 per cent), rest homes and holiday homes (18.8 per cent), and recreation centres (13.1 per cent).

Mineral springs, used by local population since early times, and natural resources for establishing resorts in certain areas of the region were the main objects of study. Since the 1960s comprehensive research for the recreational development of the southern part of the region had been undertaken. A great deal of attention was given to the development of tourism and the creation of a national park in the upper reaches of the Yenisei.

Residents of the Krasnoyarsk (Krasnoyarsk, Achinsk, Kansk and other cities), Abakan-Minusinsk and Tuva urban agglomerations make up the bulk of the vacationers. A large part of the population vacations within the limits of the region, and does not use the services of recreational institutions. Residents of Krasnoyarsk, Abakan, Minusinsk and Chernogorsk spend their weekends on the shores of the Krasnoyarsk Reservoir. One of the favourite recreational sites of the residents of Krasnoyarsk is the Stolby Reserve. Many of the vacationers like to pick berries, mushrooms, nuts, or go in for fishing and hunting.

The uniqueness of many of the recreational sites and an advantageous geographical position of the region make it possible to expect an increase in the inflow of vacationers from neighbouring regions and primarily from the Ob-Altai region and Northern Siberia. A more massive stream of tourists from Central Asia and even from the European part of the USSR can be expected. With the completion of the construction of the Sayano-Shushenskaya Hydroelectric Station and the international airports, there will be a greater inflow of tourists from abroad.

There are four bureaus for travel and excursions, and excursion bureaus in the region. The Krasnoyarsk Bureau for Travels and Excursions serves more than one million excursionists a year, the Abakan bureau approximately 269,000, and the Shushenskoye bureau, 188,000. Two national tourist itineraries pass through the region, one of them including the Baikal recreational region as well. There are eight local tourist itineraries. The region's seven railway itineraries lead to the places associated with Lenin, to the Baltic Republics, to Central Asia, to the Caucasus and the ancient Russian cities. The cruises from Krasnoyarsk to Dudinka-Dikson are arranged by the Krasnoyarsk (2 cruises), Kazakh (1) and Chelyabinsk (1) councils for tourism.

Mineral springs, curative muds and a most favourable climate may serve as a basis for building sanatoria and health resorts. A great variety of mineral springs is found in many places of the region, but their number is particularly great in Tuva and the Minusa depression. The principal types of mineral water occurring here are: carbonate, nitrate-alkaline-siliceous and sodium sulphate. There are also thermal springs. Radonic water springs with medium and high levels of radioactivity are discovered in the western, easily acces-

sible part of the Tuva ASSR, in close proximity to the republic's major industrial centres. Weak radioactive mineral waters are encountered all over Tuva. The Kozhanovo carbonated springs, some 120 km from Krasnoyarsk, are similar to those of the Narzan type.

Curative muds are found mainly in salt lakes lying in the Tuva and Minusa depressions. The water of the lakes contains mostly chlorides, sulphates, and hydrocarbons to a lesser degree. The deposits of curative muds are fairly rich. The lakes have deposits of silt and brine (often with bromium and iodine in its composition). The most famous deposits of curative muds in Krasnoyarsk Territory are those of Lake Shira (455 km from Krasnoyarsk), Lake Uchum (380 km) and Lake Tagarskoye (some 30 km from Minusinsk). As a rule, mineral water and mud cures go together here.

The climate of the region is one of the most favourable in Siberia, but the local depressions have a highly-pronounced continental climate (for example, not a single spot in the world, lying at the same latitude with Tuva, has an annual amplitude of temperatures reaching 96°). The summer lasts for three months in the largest of the depressions—the Minusa Depression—with average temperatures of from 17° to 20°C and precipitation—170 mm (while the annual figure is 300 mm). The annual average number of sunshine hours is 1,693. The temperature of water in some of the lakes reaches 24°-26°C. The winter season lasts for more than six months; mild frosts and sunny weather typical for October, November and March are highly beneficial for climatic treatment and suitable for skiing. At the same time there are exceedingly low temperatures in some of the depressions. For example, in the Minusa Depression (200 m above sea level) the monthly average temperatures are —17.1° in December, —19,9° in January, and —18.7° in February; while in the Tuva Depression (approximately 600 m above sea level) they are —28.7°, —32.2° and —30.8° respectively.

This region has all the prerequisites for organising health-building recreation, including bathing, walking and skiing activities. There are many lakes here with the temperature of water reaching 20°-25° in June, July and August. The lakes of the Tuva, Minusa and partly Todja depressions are most suitable for bathing. New man-made reservoirs are highly promising in terms of beaches and bathing facilities.

The best sites for walking are the Stolby Reserve, the

shores of the reservoirs, pine forests and the remarkably beautiful foothills of the Sayans and the Kuznetsk Alatau Mountains. The spurs of the Sayans (in the vicinity of Krasnoyarsk and the Kuznetsk Alatau Mountains are also used for skiing. The residents of Kyzyl have a skiing centre in the mid-mountain area of the Western Sayans which can be reached by Us Highway.

A thick snow cover (over 20 cm) that stays for five months and higher temperatures of the air than in the depressions, quiet sunny weather, beautiful coniferous forests and motorways near skiing sites create wonderful opportunities for the development of this type of recreation.

The region has always been famous for the variety of its animal world. Tuva, especially the Todja area in the upper reaches of the Yenisei, occupies a leading place for the area of its hunting grounds (40,000 sq km). Tuva is the habitat of 72 species of mammals (the Western Sayans and the Minusa Depression have 59 species), about 240 species of birds and over 20 species of fish. The Todja area holds first place in the Soviet Union as regards the population of bears, elk, deer, goats and fur-bearing animals (squirrel, sable). The region is also rich in grouse, fritillarias and partridges, and a great variety of fish which includes salmon trout, goldilocks, grayling, perch, and pike. This abundance of species in the animal world makes hunting for sport quite feasible.

Beautiful landscapes and rugged terrain are wonderful sites for a wide range of sports activities. There are large bodies of water suitable for sailing, rowing and fishing. The local roads can be used as interesting routeways for cycling and motoring (the Sayan Ring, for example). Mountain climbing is also a popular recreational activity here (the Stolby Reserve). This region abounds in caves, especially the Eastern Sayans and the Kuznetsk Alatau Mountains. There are more than 200 karst caves in the south of Krasnoyarsk Territory, the majority of them being 20-50 m long and 10 m deep. Several of the karst caves are over 1 km long and 150-200 m deep. The caves, as a rule, are situated in accessible, low-mountain areas.

The world-famous village of Shushenskoye, Lenin's place of exile (1897-1900), is situated in this region. The Lenin Memorial Complex in Shushenskoye is visited by more than 200,000 excursionists a year. Krasnoyarsk and Minusinsk also have memorial places associated with Lenin. The gigan-

tic complexes of the Krasnoyarsk and the Sayano-Shushenskaya Hydroelectric stations are also unique sites for tourists. There are several museums of local studies of which the most interesting are at Krasnoyarsk and Minusinsk (the Martyanov museum). The region abounds in archaeological monuments with Tuva leading in this field. Tuva also leads among the Turkic peoples in the number of petroglyphs discovered on its territory as it also does in the number of ancient Turkic sculptures and rock drawings. The local arts and crafts of the Tuvinians and Khakassians are quite unique (stone carving, bivocal singing).

The city of Kyzyl is famous for its obelisk standing in the geographical centre of Asia. This is a land of contrasts where the northern reindeer and the camel, the bustard and the northern partridge live side by side; and where permafrost and the world's northernmost deserts are not far away from each other.

There are four resorts in this region: two in Krasnoyarsk Territory and two in the Tuva ASSR. The Shira resort (catering to the residents of the republic only) has a sanatorium functioning all the year round and accommodating 610 visitors in summer and 430 in winter, and mud baths. The Lake Uchum resort also functions the year round (accommodating 370 visitors in summer and 290 in winter), and has mineral water and mud baths. The Chedyr and Ush-Beldir resorts are open only for two-and-a-half months in summer. Of the 7 tourist facilities (5 in Krasnoyarsk Territory and 2 in Tuva) only two work all through the year. The largest Young Pioneer camp, Tayozhny, for the children of Norilsk is situated in the north of the region.

The region's transport network is developed far better than in any of the other Siberian regions. Besides the Trans-Siberian Railway, across the region run the Achinsk-Abakan, the Achinsk-Abalakovo and the Novokuznetsk-Abakan-Taishet railway lines. There are also the Krasnoyarsk-Abakan motor-road (400 km), as well as the Us (Abakan-Kyzyl) and the Ak-Dovurak-Abaza highways, that run across the Sayans. The Minusa and Tuva depressions are for the most part accessible to motor transport. The inland water transport is fairly well developed; there are regular shipping lines between Krasnoyarsk-Minusinsk and Minusinsk-Abakan-Shushenskoye-Sayano-Shushenskaya Hydroelectric Station, as well as from Kyzyl up the Kaa-Khemu and Bii-

Khemu rivers. There will be a new line from Kyzyl to the Sayano-Shushenskaya Hydroelectric Station when the Sayan Reservoir is filled with water. Krasnoyarsk operates 44 airlines to the country's big cities. Kyzyl, Abakan and Achinsk have air links with Moscow. Air transport is the only means of communication for many areas of the region.

The recreational network will be vastly expanded in the future. The project for developing tourist and other recreational activities in the south of Krasnoyarsk Territory and the Tuva ASSR envisages the creation of 8 zones for mass leisure activities accommodating 64,000 vacationers (17,000 tourists, 35,000 guests at rest homes and sports centres, and 12,000 vacationers at sanatoria and other related medical facilities). It is envisaged that by the year 2000 this recreational complex will serve some 800,000 vacationers.

The Krasnoyarsk Territorial Council for the Management of Trade Union Resorts is in charge of all the recreational facilities, including those in the Tuva ASSR.

The Baikal Recreational Region

The Baikal region includes the Buryat ASSR, the Irkutsk and Chita regions (with the exception of the nothern areas which belong to Zone IV). This region is the home of 4,000,000 people.

This region is based in the main on recreational facilities of the local industrial enterprises and other organisations which provide medical treatment and various holiday activities. This can be explained by the region's remoteness from the most popular recreational regions and by the negligible number of its residents who go for their recreation outside its territory.

The uniqueness of Lake Baikal is one of the attractions which encourages tourism, including foreign, to a great degree. The rapidly developing industry of the region attracts the younger age groups of the population, which stimulates the development of tourism and recreation centres. The construction of the Baikal-Amur Railway is also of crucial importance in the development of this region.

The region's recreational opportunities have been studied by a number of institutes of the USSR Academy of Sciences, design and research centres. The main object of this research was the creation of national parks in Lake Baikal

basin. For this reason the General Plan for the Comprehensive Utilisation of the Natural Resources of Lake Baikal and Its Basin was worked out in 1966-1968. This plan envisages the use for recreational purposes of a zone (50-80 km wide) around Lake Baikal and giving it the status of a national park.

Almost half of the local residents engage in recreational activities within the region, while many vacationers go to the Ukraine, the Crimea, the Caucasus, Moldavia (17.2 per cent), the Centre, the Volga area, the Urals (over 5 per cent), the North-West (including the Baltic Republics) (3-4 per cent), and Western Siberia and the Soviet Far East (about 2.5 per cent each). Every fourth vacationer prefers to spend his holidays on Lake Baikal, the Yenisei and the Angara.

The bulk of the tourists is made up of the local population and that of the neighbouring regions (80-90 per cent). The majority of tourists from other regions arrive from the Centre and to a lesser degree from the Urals, Western Siberia, the North-West of the Ukraine, Central Asia and the Baltic Republics. The majority of tourists who come on their own are from the Urals, the Baltic Republics and the Ukraine. The guests at tourist hostels, serving national itineraries are mainly office workers who come from the European part of the USSR. Workers staying at tourist hostels of the local tourist network make up 30-50 per cent of all the guests. At tourist hostels with a 12-day stay, persons of 41-60 (and older) age bracket make up 35-40 per cent of all the guests. While staying at tourist hostels situated in the taiga or close to it, many of the vacationers go in for picking berries and nuts. This increases the pressure on tourist hostels, reaching its peak in late summer and early autumn when the berries and nuts are ripe.

Every year 380,000-390,000 schoolchildren are engaged in tourist and local studies activities, with about 50,000-55,000 taking part in geological and local studies hikes which last for several days.

In 1969, in the region there were registered 116 tourist groups (1,300 tourists), and in 1974—243 groups (2,100). The annual average increase in the number of tourists in the region reached 10-15 per cent. Most of the tourists (from 80 to 100 groups a year totalling 800-1,000 tourists) travel in the Eastern Sayans and the Tunkin Depression.

One national tourist itinerary lasting for 21 days (with 8 days spent outside the region) and 18 local itineraries (5 of which function all the year round) pass through the region. Many of them go to Lake Baikal. There are also 17 railway itineraries leading to Lenin memorial places, the Central region, the Baltic Republics, the Ukraine, the Caucasus and Central Asia. One of them (arranged by the Chita Council) goes to the Soviet Far East. Seven travel and excursion bureaus, servicing 546,000 annually, arrange sightseeing trips through cities (35), trips to the countryside (30), excursions to big plants and factories (29), and to museums (20).

The Irkutsk Reservoir, with summer villages and holiday homes on its shores, is a wonderful place for outdoor recreation. Many vacationers spend weekends on the Baikal shores. Hunting, fishing, picking berries and nuts are some of the recreational activities here.

The region leads in Siberia in the number of visits by foreign tourists. Their stream tends to grow—7,800 in 1968 and 27,500 in 1974. The bulk of foreign tourists comes from Europe (52-75 per cent), and the number of tourists from Japan also shows a tendency to grow of late.

The pressure of vacationers on the area of Lake Baikal is constantly growing. The figures for the expected flow of vacationers to Lake Baikal are shown in Table 8.

The number of vacationers per summer month will reach the 440,000 mark of which 240,000 will come from the Asiatic part of the USSR and about 200,000 from the European part. The tentative peak of vacationers may reach 2,300,000-2,500,000.

The climate, mineral springs and mud cures provide the basis for developing the region's network of sanatoria and related medical facilities. The intermountain depressions where all the leading resorts are situated are characterised by a dry climate, a wide amplitude of annual temperatures and a large number of sunshine hours. The snow cover stays 145 days in the depressions and 250 days in the mountains around. Spring is dry and sunny (15-30 mm of precipitation), and summer is warm and humid. Despite abundant precipitation the weather is often clear and cloudless (40-50 per cent of days per month). Autumns are dry and warm. Strong winds, as a rule, occur in spring and are rare in the other seasons of the year. Local light winds are frequent on Lake

Baikal during the warm season. On the whole, the region's climate with an abundance of sunshine, dry and pure air is most beneficial for curing certain diseases.

Curative muds occur mainly in the Irkutsk (silt muds of the Maltinskoye and other lakes) and Chita regions (muds and brine of Lake Ugdan).

The region's mineral water resources comprise: the weakly-mineralised hydrocarbonate magnesium sulphate water

Table 8

The Expected Distribution of the Flow of Tourists and Vacationers in the Recreational Zones of Lake Baikal
(during the peak period)

Form of recreation	Distribution of the flow		The basic types of recreational and tourist facilities	Distribution according to the types of facilities %%
	%%	thous.		
1. Tourism	50	120	—	100
including:				
on foot	25	60	tourist hostels	40
by car	15	40	motels, camping grounds	40
water-borne	10	20	ships	20
2. Recreational activities restricted to a locality	50	120		100
including:				
mass leisure activities	42	100	hotels, summer villages	82
fishing and hunting	3	8	hunters' and fishermen's hostels	7
sports and health-building recreation	3	7	sports, and sports and health-building camps	6
Young Pioneer camps	2	5	Young Pioneer camps	5
3. Sanatoria medical treatment	—	10	sanatoria	100

of the Arshan spa, the weakly-mineralised siliceous sodium sulphate nitrate thermal water of the Goryachinsk spa, yielding 2,000,000 l/sec (55°C), the sodium chloride brines at

Usolye and Ust-Kut, the cold carbonate hydrocarbonate-calcium-magnesium water, containing iron, at the Darasun spa which yields 650,000 l/sec.

In the area between Zima Station and the city of Ulan Ude 127 mineral springs with curative properties were discovered. There are also 300 highly-mineralised springs of almost all known types of medicinal water.

The opportunities for organising bathing activities are rather meagre in the region. During the summer season the temperature of water in Lake Baikal is lower than the required level of comfort. The majority of the rivers are cold mountain rivers with rapids. There is only a small number of lakes with good beaches and warm water in summer—some of the few exceptions being Lake Kotokel (20°-24°), 2-5 km away from Lake Baikal, and Lake Shchuchye (20°). The variety of landscape—dry steppes and snow-covered peaks, mountain rivers and an abundance of lakes—and rich animal kingdom and vegetation offer good opportunities for sports as a recreational activity.

Places associated with the insurgents who rose against tsarist autocracy in December 1825 and were exiled to Siberia, as well as hydroelectric stations on the Angara and new industrial centres can be used in organising tourism for education.

Medical and recreational facilities belonging to various plants, factories, etc. make up the greater portion (70 per cent) of the region's overall network of recreational institutions while tourist hostels and rest homes account for 30 per cent (Fig. 24). The majority of medical and related facilities functions the year round with a slight increase in their accommodation capacity in summer. They have sports grounds, solariums, and also provide entertainment and a range of cultural activities. Recreational facilities for children, Young Pioneer camps in particular, function during the summer season.

The number of tourist hostels and their accommodation capacity are rapidly growing. Tourist hostels within the network of regional councils for tourism and excursions accommodated 700 visitors in 1967, and 2,300 in 1974, while the total number of vacationers at all tourist hostels rose from 8,400 to 27,600 during the same period.

Projects for the development and reconstruction of recreational facilities envisage a further expansion of the existing

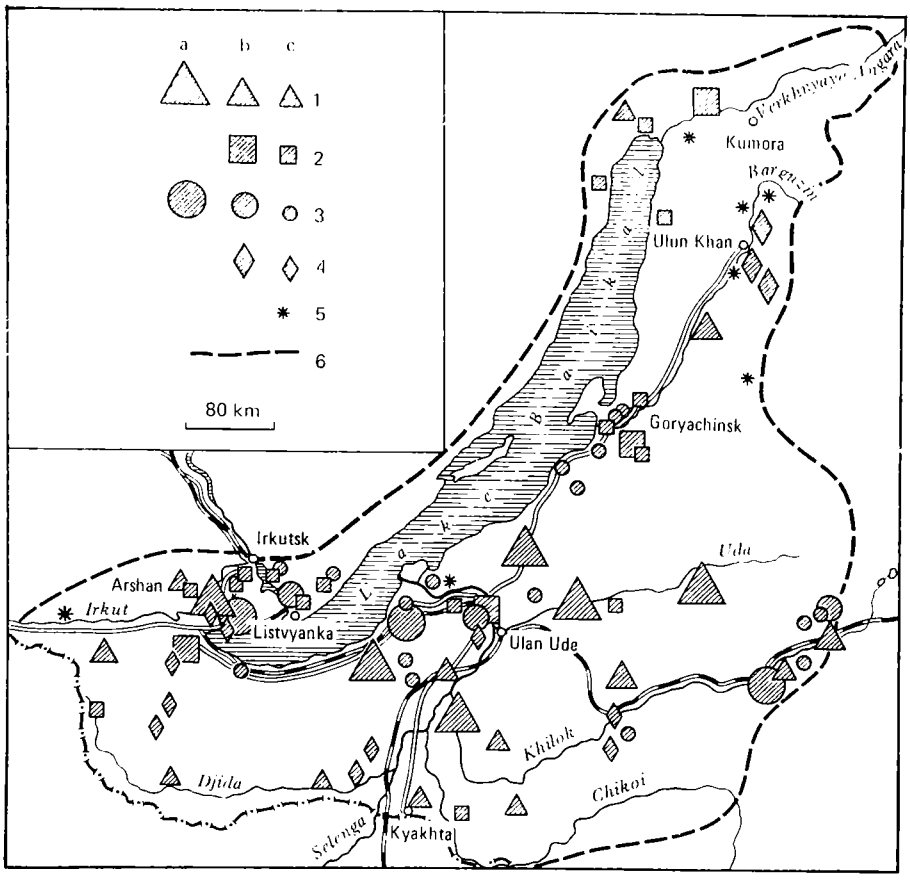

Fig. 24. Distribution of recreational institutions near Lake Baikal (compiled by M. P. Chigrinets according to A. A. Chernoyarova, 1977).

Type of recreational institutions: 1—sanatoria; 2—Young Pioneer camps; 3—tourist hostels; 4—rest homes. Size of institutions: a—over 1,000 accommodations, b—from 300 to 1,000, c—up to 300; 5—mineral springs; 6—boundaries of the region under examination.

resorts. Thus, for example, it is planned to increase the accommodation capacity of the Darsun resort from 800 to 3,000, of the Arshan resort—from 260 to 500, and of the Goryachinsk resort—from 200 to 500. It is also envisaged to establish five wildlife parks on the lakeshore of Baikal: the Barguzin (362,000 ha), the Chivyrokui (155,000 ha), the Khamar-Daban (177,000 ha), the Olkhon (175,000 ha) and the Angara (33,000 ha) parks. Visits to these parks will be regulated by a specific carrying-capacity quota.

The construction of the Baikal-Amur Railway makes the

recreational development of the region's northern areas a crucial issue.

The region's main waterways include: the Angara, the Irkutsk Reservoir, Lake Baikal, the Selenga, the Barguzin, the Upper Angara, the Khilok and the Chikoi. The inland water transport carries over 900,000 passengers annually, of which 99.1 per cent fall for the Irkutsk Region (the Angara, the Irkutsk Reservoir, south-western Baikal). Suburban shipping lines carry 76-77 per cent of the tourists.

Motor transport is the most widespread type of transport here, with some 10,000 km of roads, carrying 800,000,000 passengers annually.

The railway network (over 1,200 km) is smaller in comparison with other transport networks.

Airlines are of crucial importance for developing tourism on a greater scale. At present many of the areas suitable for recreation are accessible only by air. Irkutsk has direct air links with 34 cities, including the resort cities of the Crimea and the Caucasus; Chita—with 21 cities, including Odessa, Simferopol, Sukhumi and others; Ulan Ude—with 8 cities.

On the whole the region's transport network is rather small in scale to meet the recreational demand. Roads leading to Lake Baikal are few in number, and its coasts can be reached only by boat.

The construction of recreational facilities is complicated by mountains, seismic hazards, permafrost and icing fields. It is very important in this severe climate to choose sites with the most favourable microclimatic conditions. All recreational buildings should correspond to high comfort standards. The incidence of encephalitis is high in the zone.

The Far Eastern Recreational Region

The Far Eastern region includes Primorye and Khabarovsk territories, and the Amur and Sakhalin regions. The area of this recreational region is 1,400,000 sq km and the population is 5,000,000 of which 3,800,000 are urban dwellers. A significant part of the working population is connected with the sea or the timber industry in one or another way. This accounts for the specific features of the vacations, their long duration and seasonal character. People from all over the country come to work here, imparting a vivid character to the national composition of the population.

At the present time the recreational economy of the region is oriented mainly on the local population and a small stream of vacationers from the northern areas. This is reflected in the network of the recreational facilities and institutions, where the leading place in available accommodations is held by sanatoria and holiday homes with medical treatment (approximately 40 per cent), followed by recreation centres (33 per cent). The capacity of the tourist facilities which are basically designed to serve the local tourist itineraries is relatively large (about 27 per cent). There are quite a few Young Pioneer camps in the region, which ranks first in the country in the number of places that they have per 1,000 population.

Of the recreational sites, the Shmakovka resort belongs to a national category. There is also one national tourist itinerary through the south of Sakhalin. Cruises on the Pacific Ocean begin in this region.

The proximity of the Pacific Ocean, the remoteness of the region from the European part of the USSR, and the specific character of the labour activities of the local population leave their mark on the recreation patterns of the workers. The majority of the population vacations within the limits of the region; many of them engage in gathering berries, mushrooms, nuts, go in for hunting and fishing, and do not resort to the services of recreational institutions.

For many of the residents of the region who work on the sea and in the timber industry, the time of their vacations is shifted to the winter period. The greater part of the population that lives in the northern part of the region vacations outside the region, going mainly to the European part of the USSR, but in general their number is not great.

Some of the vacationers go on sea cruises during their holidays, and some travel along the rivers.

There are 13 bureaus for travels and excursions in the region, servicing over 1,500,000 excursionists a year. The greatest number of them is serviced by the Primorye (660,200) and Khabarovsk (535,400) councils.

There is one national itinerary in the region (June-September), including a 14-day stay at two tourist hostels of South Sakhalin and a five-day hike. The 17 local itineraries include a stay at the tourist hostel combined with hikes for several days. The Primorye Council has organised one sea tourist itinerary—Vladivostok-Sakhalin-Kamchatka-Vla-

divostok. There are three river itineraries along the Amur, arranged by the Amur and Khabarovsk councils. The Amur, Primorye and Khabarovsk councils arrange 12 railway itineraries to the Baltic Republics, the Ukraine, the Caucasus and Central Asia. The duration of these itineraries is 26-32 days.

In winter, masses of dry and cold continental air hold sway in the Far Eastern region, solar radiation is very high in south Primorye and the number of sunshine hours here ranges from 170 in December to 210 in January. The period of ultra-violet deficiency is absent. Strong winds are a negative factor. But even the cold season is quite favourable for winter types of aerotherapy and heliotherapy in winter solariums or specially-adapted rooms with windows facing the south. It is possible to take sun-baths in winter air solariums until early November and resume them at the end of March.

Compared to the Baikal area, spring in Primorye is warmer and more humid, the number of overcast and rainy days constituting 40-50 per cent per month. There is a great amount of precipitation in summer. The number of sunshine hours in July does not exceed 125. Autumn sets in later than in the Baikal area. The September temperatures are usually higher than those in July. Weather with light frosts is observed only in October. The duration of sunshine is 205-210 hours a month. However, the appearance of typhoons produces a sharp worsening of the weather with large fluctuations in the pressure. An average of 7 typhoons pass through Sakhalin a year, the majority of them occurring in summer and in early autumn. Areas with a high incidence of encephalitis and large swarms of midges are dangerous for recreational activities.

There are many sites in the region suitable for winter types of activities, primarily for skiing trips. A stable snow cover lasts from 1.5 to 3-4 or more months. Opportunities for aquatic activities, the gathering of mushrooms, berries and exotic edible plants are also great.

In the seas that wash the Far Eastern region the summer temperature of the water is not high, with the southern part of the Sea of Japan (Vladivostok and other places) being the only exception; here the water temperature in the shallows of the bays may rise to 28°C in July-August, and up to 24°C in September. In the Sea of Okhotsk, at the southern

tip of Sakhalin, the highest temperature is observed in August (17°C).

At the present time, the deposit of silt muds is exploited in the Uglovaya cove of the Amur Bay, 26 km from Vladivostok. The sanatoria of Sakhalin use the Starodubskoye deposit of sea-silt muds, on the Sea of Okhotsk. The prospected reserves of curative peat muds that have been found on the coast of the Tatar Straits amount to some hundreds of thousands of cu m.

In the south of the Far East, carbonated mineral waters and siliceous thermal springs are widely known, while sulphate and chalybeate mineral springs have been studied to a lesser degree. The principal prospected reserves of carbonated mineral water are concentrated at the resorts of Shmakovka, Lastochka and Gonzha. Siliceous thermal springs have been prospected at the resorts of Kuldur and Annenskiye Vody.

The resources for fishing and hunting for sport are exceptionally abundant.

The famous Far Eastern forests with their exotic plants and animals, picturesque mountain areas, rivers, and the sea coast with coves and islands, are interesting tourist sites.

Of great educational interest are places where battles were fought during the Civil War (1918-1922), and museums in various cities, especially in Vladivostok. The modern port of Nakhodka and the port of Vostochny under construction now are also viewed as tourist sites. The ethnography of the small nations is also of exceptional interest.

The region's famous Shmakovka resort, with comfortable quarters, a medical-treatment division, curative baths, and an aerarium, caters to vacationers from all over the Soviet Union.

Many of the recreational institutions and facilities of the region occupy vast grounds in the forest areas. A complex of recreational institutions and facilities, combined into a resort zone of the city of Vladivostok, stretches along the coast of the Amur Bay for 16 km.

The Kuldur resort, one of the largest in the region, stands out among those that are of a republican status. In summer it accommodates 940 vacationers at a time and in winter—800.

The Ussuri sanatorium, accommodating 540 visitors, is

45 km from Khabarovsk. Adjoining the sanatorium there is a rest home that can accommodate 500 in summer and 330 in winter. Half of the six tourist hostels in the region operates the year round.

The most dense network of motorways is in the southern part of Primorye Territory. Inland water transport is based on the region's big rivers (the Amur). Marine and airlines are of crucial importance here.

ZONE IV

At the present time, new territorial-production complexes are developed at a rapid rate here with Western Siberia, the north of Krasnoyarsk Territory, and the areas that gravitate towards the Baikal-Amur Railway being of outstanding importance. The zone's recreational units are concentrated at separate foci. The European section of the zone (Kola Peninsula, the White Sea) is developed to a somewhat higher degree in this respect than its Asiatic section, which has a few individual recreational sites.

Trans-zonal tourist itineraries run through this zone along big rivers (the Ob, the Yenisei and the Lena). An ever-rising interest in the north of the country makes an increase in the flow of vacationers from other regions quite feasible. Due to local transportation features this stream will be directed mainly along the major waterways.

The Northern Recreational Region

This actively developing territory occupies over 11,000,000 sq km and has a population of 7,300,000. The residents of the North are given a longer vacation than the residents of the other regions of the country, as well as a number of various privileges including transportation, which creates stable powerful streams of vacationers, usually heading out of the region. Only near large cities (Norilsk, Magadan, Kirovsk and others) is there a network of local health-building facilities being developed.

The North stands apart in the uniqueness of its natural conditions, differing sharply from those of the highly-urbanised areas of the main zone of settlement. Generally, the region is characterised by monotonous terrain and areas difficult of access, but there are areas that attract the population of the central zone by their exotic northern sce-

nery. These are the well-known forest and lake country of Karelia, the skiing areas of the Khibiny Mountains, the harsh districts of the Polar Urals and the Putorans, and the volcanic landscapes of Kamchatka. Such unique natural phenomena as the northern lights and the white nights as well as the opportunity to see the Arctic Ocean also attract tourists to these places. There are favourable conditions here for engaging in sport activities (skiing, aquatic sports, and fishing and hunting), gathering wild-growing fruit and berries, and for resting. For this reason more and more tourists travel to the North during recent years. This has also found expression in the network of the recreational facilities in which the tourist institutions occupy a leading place. Similar network is characteristic only for the Caucasian Mountains, the most popular tourist region in the country. An ever-increasing urbanisation and the high pressure on the southern regions are most likely to step up the development of the North in this respect.

The North is still weakly studied from a recreational angle. Its European part is in a better position in this field since the basic prerequisites, along with problems of planning, design and organisation of recreational systems in the North have been examined with a view to its European part. Questions of the development of mountain skiing tourism on Kola Peninsula were studied and evaluations given of its recreational possibilities. In addition, problems of allocating hunting grounds and organising transport facilities in the recreational areas of the North were examined.

A large section of the city dwellers, that receive longer vacations and additional privileges, spend their leaves in other regions of the country. However, it is the opinion of doctors that for persons who are not fully acclimatised it is better to spend their vacations in neighbouring zones III or II.

In summer up to 40 per cent, and in winter up to 25 per cent of the residents of the large cities, leave the city for a short spell of rest. Many of them go in for fishing or hunting during their vacation. Organising recreation in the north of Western Siberia acquires a particular importance in the light of the development of its gas and oil-fields. In these parts, hunting and fishing, gathering of berries and mushrooms are highly promising weekend recreational activities, which require a developed inland water network and, possibly, the use of airlines.

The bulk of vacationers is made up of tourists that come from other parts of the country. At present, seven national itineraries pass through the Kola Peninsula, three of which are winter ones (ski-marches). Summer itineraries pass through the principal cities of the peninsula (Murmansk, Monchegorsk, Kirovsk). In addition, there are hiking and water-borne tourist itineraries. Nine itineraries are arranged by the local councils for tourism—one in winter (skiing) and the rest between June and September, the majority of them passing through the Arkhangelsk Region. There are two Arctic Ocean cruises, four itineraries along the Lena and the Vitim, and one White Sea cruise.

Several tourist routeways passing through the region are arranged by the councils for tourism and excursions of other regions. They are principally connected with the Arctic Ocean cruises. For example, the Council for Tourism of the Armenian SSR is responsible for the Murmansk-Dikson-Dudinka-Solovki-Arkhangelsk-Murmansk cruise.

There are over 14 bureaus for travels and excursions that service about 1,500,000 tourists a year. The Petrozavodsk Bureau for Travel and Excursions in Karelia caters to about 580,000. There are 70 excursions to the countryside and 60 around local cities.

The North possesses conditions for the development of all basic functional types of recreational activities. Thus, the thermal springs (for example, the Talaya spring) offer an opportunity for the development of sanatoria and other medical-treatment facilities for servicing the local population. The principal difficulties for the development of the sanatoria and health-building network are associated with the local climate, even though the climatic conditions are not the same in different parts of the region. The comfortable period is very short (10-20 days). In spite of the relatively low latitudes, summers on the Sea of Okhotsk, Kamchatka, and the Kuril Islands are extremely cool. The bathing season, practically, does not exist. Only several shallow and sun-warmed lakes and ponds or thermal springs may be used for bathing. The weather in the middle reaches of the Lena near Yakutsk is distinguished by an increased level of comfort (some 30 days). Winters are particularly severe with regard to the temperature and the wind factor in the Asiatic part of the USSR.

Curative muds and mineral waters are also in evidence

in the region, especially in its eastern part (Kamchatka, Magadan Region).

A long snow-holding period (of more than 200 days in many parts of the region) and dissected topography offer good opportunities for skiing. An abundance of lakes and a whole range of rivers—turbulent with rapids and wide, quietly flowing—make it possible to develop many types of water-based sports. An abundance of game and fish are conducive to the development of hunting and fishing activities on a vast scale. But the specific conditions of the existence of the animal world in the North call for strict regulation of hunting and fishing.

The use of the waterways is a specific feature of the given region. This can be explained, to a great extent, by the poor passability of dry land and vast areas of swamps. The principal tourist itineraries follow rivers and seas. The dry-land itineraries pass through mountain regions (Khibiny, Urals, Putorans and others).

The mountains of the North are lower than those in the South, but many of them (Urals, Putorans, Verkhoyansk Range and others) have areas suitable for the development of mountain-climbing.

The Solovki Monastery, and the arcades in Arkhangelsk are of great interest to tourists and excursionists. The European North is famous for old Russian architectural, mainly wooden, monuments which are represented by whole villages, individual houses and other structures. Of exceptional interest are the National Reserve of Kizhi—a remarkable open-air museum of wooden architecture, and a unique ensemble of early Russian architecture in Kargopol.

The region's sights include: Lomonosov's (the great 18th-century Russian scientist) birthplace in Arkhangelsk Region, the remains of ancient Mangazea in Western Siberia, and places on Dikson Is. and other islands associated with the history of the Northern Sea Route. Many Russia's outstanding men were exiled to the northern parts of the country. Y. M. Sverdlov, a leading Communist worker and statesman, was exiled to Turukhansk before the 1917 Revolution. In Yakutia there are many places to which the Decembrists were exiled in the 19th century.

Today the North is one big construction site. The new cities of the Kola Peninsula (Apatity and Kirovsk), the cities of Norilsk and Magadan, the Dudinka-Norilsk railway which

is the world's northernmost, the port of Igarka, and geothermal and tidal power plants are all sites of particular interest to tourists.

The recreational institutions and facilities in the North, as a rule, do not have a large number of available accommodations and in the main function the year round.

All the buildings and structures of the local resorts are characterised by high comfort standards. Thus, the year-round Valek sanatorium, built for the workers of Norilsk, immitates indoors the climatic conditions of more southern areas, and tropical plants are grown in its green-houses. The living quarters at the Talaya resort (Magadan Region) were built with an eye to the severe climatic conditions of the North. There are closed passageways between buildings, and local thermal waters are used for their heating.

There are still very few tourist hostels in the North, but it may be expected that it is precisely this type of recreational facilities that will prevail here. There are four tourist hostels and several lodges on the Kola Peninsula; five in the Karelian ASSR, and three on Kamchatka.

In the North the transport network functioning the year round is represented by airlines. During the summer period the transport network expands sharply as a result of a large number of waterways open to exploitation.

The network of motor-roads is also sparse. It is somewhat better developed in the southern part of the European North. In the European part there are: the road that connects Karelia with the Kola Peninsula (to Monchegorsk), the roads, leading from Vologda to Arkhangelsk via Kargopol and Velsk, as well as the roads to Kotlas. A highway that connects the Trans-Siberian Railway with Yakutsk in Siberia has a country-wide significance.

The giant hydroelectric stations planned to be built in the North on the Yenisei, the Lena and other rivers, as well as unique covered urban complexes are also interesting from a recreational point of view.

One of the most crucial management problems here is associated with nature protection in conditions of low metabolism, slow regeneration rates of plants, and thermokarst processes.

At the present time it is possible to see the emergence of several distinct foci of the localisation of recreational func-

tions. These are areas of water-based sports and hiking in Karelia and on the Kola Peninsula, and of skiing and hiking in the Khibiny Mountains, to the north of the Urals and the Putorans; the excursion sites of the European North (Kizhi, the Solovki Islands); the Siberian rivers (the Ob, the Yenisei and the Lena) and the mountains and volcanoes of Kamchatka.

Part III

TRENDS IN THE DEVELOPMENT OF THE TERRITORIAL RECREATIONAL SYSTEMS OF THE USSR

A study of the modern trends of the socio-economic life of society that find their reflection in recreational activity is one of the most important stages of forecasting the territorial organisation of the recreational economy. In this connection particular attention should be paid to a number of important phenomena that determine these trends.

In the first place they include an increase in the number of the population participating in recreational activity outside its permanent place of residence. At the present time, for example, the participation of the rural population in recreational activities is rapidly increasing.

Under the influence of socio-economic factors (improved well-being, higher educational levels, more free time, urbanisation), the pattern of leisure activities undergoes certain changes. More and more people want to spend long, short or one-day holidays outside their permanent place of residence. Active forms of recreation (tourism and excursions, trips to the countryside, hiking and boating, and sport games in the open air) develop at a rapid rate. The mobility of the population during weekends and holidays grows, and vacationers try to make their holidays more varied by increasing the number of sites visited and tours taken. The standards of leisure activities of the population rise as the variety of recreational activities, their types and forms increase.

This results in a discrepancy between the changing pattern of recreational activities and the existing types of recreational systems and facilities, which are for the most part rest homes, sanatoria, holiday homes, that are not intended for active and mobile vacationers. There are as yet no established forms of organising recreational activities on the constantly expanding territories used for active and mobile

recreation. This shortcoming is felt all the more in planning weekend recreation. Greater requirements which can be met by industrial methods, popularity of recreational regions with developed material and technical bases, infrastructure, etc., are responsible for the continued urbanisation of resort areas and complexes.

An inevitable contradiction is generated by recreational activities spreading to resources and territories that are used by other branches of economy (mining, timber, building materials, chemicals, pulp and paper, etc.), on the one hand, and by territorial and natural inland water or marine complexes losing their recreational properties as a result of industrial or agricultural exploitation, on the other. Contradictions arise within the recreational branch as well. The proportion of active and mobile recreational pursuits during long vacations has grown of late. This explains why the allotting of vast areas (suburban especially) for inactive recreation (rest homes, sanatoria, country houses, gardening societies, etc.) becomes an obstacle to the development of other effective public forms of using land. The streams of excursionists and holiday-makers heading on weekends to regions that have shaped as national areas used for long vacations is yet another characteristic contradiction.

And, finally, with recreational pressures sharply growing, strict measures for the protection of nature and a search for new territorial forms of nature protection during and for recreation have become of crucial importance.

General Trends in the Development of Functional Sub-Sectors of the Recreational Economy

The increase in the variety of recreational requirements is accompanied by a greater flexibility in the organisation of the sub-sectors of the recreational economy. Basically new recreational sub-sectors are emerging and those that already exist are being augmented by new institutions and facilities. A concentration of recreational institutions and facilities, accompanied by the formation of new nodes, is taking place.

The development of sanatoria and other related facilities with medical treatment continues to have a double orientation. On the one hand, regions most suitable for establishing

sanatoria and resorts are further developed to serve the population of the whole country; on the other hand, in the country's main zone of settlement the network of sanatoria, resorts and other related medical-treatment facilities is enlarged to service the local population, especially the older age groups that have difficulties in adapting to new conditions and convalescents (after cardiovascular diseases, for example).

As a result of these processes national recreational regions will continue to expand and new territorial recreational systems (combines and associations) will take shape. These processes can be most clearly observed in the following leading resort areas: the Black Sea Coast of the Caucasus, the Crimean, Odessa and Azov regions.

The recreational combines and associations existing here will form zones of resort settlements to merge into resort agglomerations. The shores of the Baltic and the Caspian seas are highly promising for the emergence of new resort combines and associations. Large resorts with sanatoria and other related facilities, to serve primarily the local population, are taking shape in Central Asia and Siberia.

The process of equalising the number of sanatoria and other related facilities concerns, first of all, zones II and III, the majority of their recreational regions being oriented towards servicing the local population. This process is accompanied by the creation of new recreational facilities and the shaping of their foci, concentrations, and the building of resort villages in the most comfortable areas (the Baltic Republics, the Carpathians, the south of Siberia and the south of the Soviet Far East).

Of late, the increase in the number of recreational facilities for families is becoming a crucial and leading tendency, and they are likely to occupy a prominent place in the overall network of rest homes and holiday homes. Another new feature is an ever deeper differentiation of recreational facilities, for example, specialised rest homes for young people within large recreational systems. Individual rest homes and holiday homes in the main zone of settlement will serve mainly the older age groups.

The development of the southern regions and large-scale construction in the more developed recreational areas, primarily at seaside resorts and in places with a solid material and technical base are proceeding at a rapid rate.

A large proportion of the rest homes will be located in the zones of climatological resorts. Sanatoria at seaside resorts will combine medical-treatment and health-building functions.

Recreational units embracing rest homes and holiday homes (with health-building specialisation) may be established on the shores of man-made seas—the Volga reservoirs, the Novosibirsk Sea or the Kremenchug Reservoir, for example.

It can be expected that in the future, too, many regions will extensively use recreational facilities of the neighbouring regions with better natural conditions, restraining thereby the development of their own facilities. For example, many of the Caucasian recreational regions may use the rest homes of the Black Sea Coast of the Caucasus, and the Dnieper-Dniester region can use the facilities of the Azov and Odessa regions.

Substantial changes are expected to take place in the recreational services offered by rest homes within the orbit of big cities. They will be turned into suburban hotels, holiday homes, and recreation centres used for short and long vacations.

The tendency to establish recreation centres in the main zone of settlement will persist in the future as well. The standards of services and comfort will be changed for the better. Even today comfort standards at some of the recreation centres hardly differ from those at rest homes. Both rest homes and recreation centres are increasingly switching over to servicing vacationers and their families.

Recreation centres will play a crucial role in the shaping of the recreational network of Siberia and the Soviet Far East. In the context of the development of new areas and the building of new cities and population centres, many industrial enterprises will organise their own recreation centres. In Zone I, particularly in its more developed regions, recreation centres will have a lesser role to play, while they will have a pioneering role in the newly-developed seaside regions (mainly the Caspian and Azov regions).

Hiking, educational tourism and excursions, mountaineering, and especially mountain skiing, are the most progressing recreational activities.

Hiking is vastly popular in the mountain areas, and it is here that facilities associated with it are expected to increase

in number. Apart from the existing facilities of the Caucasian Mountains and the Carpathians, their intensive development will take place in the mountain regions of Siberia and Central Asia (the Altai, Sayans, Tien-Shans), and along the Baikal-Amur Railway.

In the mountain areas hiking, as a rule, goes together with skiing. Their development leads to the emergence of centres of the Dombai type and urbanised settlements near small towns. Sometimes such sports and recreation centres can be based on the already existing settlements (Terskol, Teberda).

Other forms of hiking and tourism are also to be progressively developed. Today tourist activities take place on the majority of small and middle-sized rivers of Zone II, while more and more itineraries are being offered on the rivers in the south of Siberia. One of the crucial problems of the not so distant future is to increase the number of accommodations at the existing tourist hostels and build new ones in zones II and III.

Tourist and excursion facilities are closely connected with the country's settlement patterns. Tourist hostels, motels and camping grounds are located near large cities which offer a wide range of cultural and historical sights. Places of interest in the smaller towns and settlements are also becoming part of the excursion network.

The creation of new natural sites, natural parks for instance, may have a pronounced influence on the development of excursion services. The creation of national parks will expand excursion networks in Siberia and the Western, North-Western, Ural and Caucasian Mountains regions. The excursion network offers a big choice of activities for schoolchildren.

The emergence of gardening societies is closely connected with problems of the agricultural development of the suburban zones. They occupy vast areas in the form of peculiar urbanised rings around cities and the sizes of these rings are in proportion with the sizes of the cities.

This form of recreation is expected to flourish in areas with a rapidly growing industry and a rather weakly-developed farming, i.e., in the non-black earth regions of Zone II and the majority of regions of Zone III. The Volga region may serve as an example with its vast network of gardening societies.

The prospects for the development of this form of leisure

in regions of intensive farming in the south of the country, where the development of gardening societies proceeded slowly, present a most complex problem.

The creation of state-owned summer villages, where houses will be rented out for one or more seasons, is rather promising.

One of the first entirely new forms of organising leisure activities in the Soviet Union are recreational (national) parks. Usually they occupy vast areas with a diversity of natural landscapes (completely untouched or changed to a negligible degree by man). Their basic function is to satisfy the need for outdoor leisure activities, which presuppose high mobility and short stays in one place. The form of their services is dispersive with a limited choice of specialised facilities. The principal types of their recreational facilities include tourist hostels, tourist motels, cabins and sports camps. Stricter nature protection measures are a characteristic feature of these parks.

There are several types of recreational (national) parks. It is only logical to base this typology on the correlation between the basic groups of recreational activities: the consumption of natural values, physical activities, various recreational pursuits and the consumption of cultural values.

The prevalence of one of the groups of activities mentioned above makes it possible to distinguish four types of parks: a landscape park for walking, a park for walking and sports activities, a park for hunting (or fishing) and an architectural and historical park. Of course, there may be mixed types, characterised by the prevalence of the two basic groups of activities: a landscape park for walking and sports activities, a landscape park for walking and hunting (or fishing) and a landscape park for walking and with architectural and historical sites. It is interesting to note that today the majority of the national and regional parks of various countries approach the type of a landscape park for walking.

The determination of the types of recreational parks and the regions in which they are to be created depends on whether they are intended to meet the demands of the population of cities, urban agglomerations, or whether they will be of an inter-regional and national importance.

It may be supposed that in the first place parks should be created not in the remote localities, but in regions of con-

centration of the population, in places where increased recreational pressures are already in evidence. The problem of creating recreational parks in Zone II, as well as in many regions of Zone I, is quite acute. In this context particular attention should be paid to the regions of the European part of the USSR, the Urals, Siberia and the Soviet Far East with their large urban agglomerations.

During a public poll to establish which types of natural sites should be used for inter-city, inter-regional or national parks, sociologists have found out certain types of landscapes that attract urban population during vacation. The poll also showed that among those questioned (the 16-60 age bracket) 35 per cent preferred to spend their vacations in forests, 30 per cent by the river or lake, 28 per cent by the sea, 5 per cent in the mountains, and 2 per cent near mineral springs.

These figures show that shores of warm seas, rivers, lakes and reservoirs should be given priority development as sites for inter-regional and national parks. However, the idea of creating parks in mountain areas on a vast scale just as giving priority development to sites of winter sports, for which the demand is rather low, should be considered very carefully.

The creation of parks for walking and sports activities in coastal areas of warm seas, rivers, lakes or reservoirs on a vast scale does not preclude the establishment of landscape parks for walking or of a mixed type in the taiga zone or in the north of the country. But when creating inter-regional or national parks the unique quality of the local sites should be kept in mind (the volcanoes and geizers in Kamchatka, Lake Baikal, the glaciers in the high mountains of Central Asia).

These principles are also valid for the development of areas slated for parks of the more distant future.

The Basic Trends in the Development of Recreational Zones and Regions

The trends in the territorial development of separate subsectors of the recreational economy that have been examined above will inevitably lead to a change in the territorial structure of the recreational system of the USSR. The loca-

tion of recreational institutions and facilities will change, as well as the pattern of the recreational zoning of the USSR. It is evident that in different recreational zones of the country the intensity of these trends will be different.

Each of the zones is characterised by a certain stage in the development of recreational functions: the highest stage is characteristic for Zone I, the lowest for Zone IV. With the general trends in the development of the recreational activity and the factors of the formation of the territorial recreational systems and their development remaining unchanged, a displacement, as it were, of characteristics of the recreational zones and regions (their capacity, the status, specialisation, etc.) will take place at some later date.

Since the numerical growth of recreational institutions and facilities will continue to be accompanied by the active development of new areas, specialisation and concentration of these institutions and facilities, the zoning pattern will also undergo a change. This means that new zones may form, boundaries of the existing zones may change; new recreational regions will appear; sub-regions will emerge in a number of regions, as well as new localisations and agglomerations.

These processes will not manifest themselves uniformly. The regions of Siberia and Central Asia, where the active formation of new territorial-production complexes, accompanied by a no less active recreational development, is taking place, will undergo significant qualitative changes. The territorial development of recreational systems in urban agglomerations of the European part of the USSR will also proceed at a rapid rate. The growth and expansion of traditional resort regions will continue. Recreational systems of the health-building type, particularly those connected with sunning and bathing, will be further developed in the more settled regions. These trends will manifest themselves most strongly on the Black, the Azov and the Caspian seas, and at Lake Issyk-Kul. The rapidly growing number of car-owners will also greatly affect the establishment of recreational parks.

The changes that are taking place and the trends that are taking shape are shown in the zoning scheme for a prospective period (Fig. 25, Table 9).

It may be seen from the table that a complication of the general scheme will take place: today's Zone III will split

Table 9

The Typology of Perspective Recreational Regions

The name of the region	Basic function	Orientation	Degree of development
1	2	3	4
Zone I			
1. Black Sea Coast of the Caucasus	medical and health-building	national	highly-developed
2. North Caucasian	medical	national	developed
3. Caucasian Mountains	sports and tourist	national	developed
4. Western Transcaucasian	health-building and medical	local, national	developed
5. Eastern Transcaucasian	health-building and tourist	local, national	developed
6. Caspian	medical and health-building	servicing the neighbouring regions	medium-developed
7. Crimean	medical and health-building	national	highly-developed
8. Odessa	health-building	national	highly-developed
9. Azov	health-building	servicing the neighbouring regions	medium-developed
Zone II			
10. Carpathian	medical and health-building	servicing the neighbouring regions	developed
11. Kiev-Dnieper	excursions and health-building	national, local	developed
12. Kharkov-Donetsk	medical and health-building	local	developed
13. Volga	excursions and health-building	local	developed
14. Ural	medical and health-building	local	medium-developed
15. Central	excursions and health-building	national, local	highly-developed, developed

Continued

The name of the region	Basic function	Orientation	Degree of development
1	2	3	4
16. North-Western	health-building and excursions	local, national	medium-developed, highly-developed
17. Kola-Karelian	sports and tourist	servicing the neighbouring regions	poorly-developed
18. Baltic Republics	excursions and medical	servicing the neighbouring regions	developed
19. Byelorussian	medical and health-building	local	medium-developed
Zone III			
20. Central Asian (mountains)	health-building and sports	servicing the neighbouring regions	medium-developed
21. Central Asian (plains and deserts)	excursions and medical	national (servicing the neighbouring regions), local	poorly-developed
Zone IV			
22. North-European	medical and tourist	servicing the neighbouring regions, local	poorly-developed
23. Ob-Altai	medical and health-building	local	medium-developed
24. Yenisei	health-building and medical	local	medium-developed
25. Baikal	health-building and medical	servicing the neighbouring regions, local	medium-developed
26. Far Eastern	medical and health-building	local, servicing the neighbouring regions	medium-developed
Zone IV			
27. North-Asiatic	medical and tourist	local, national	poorly-developed

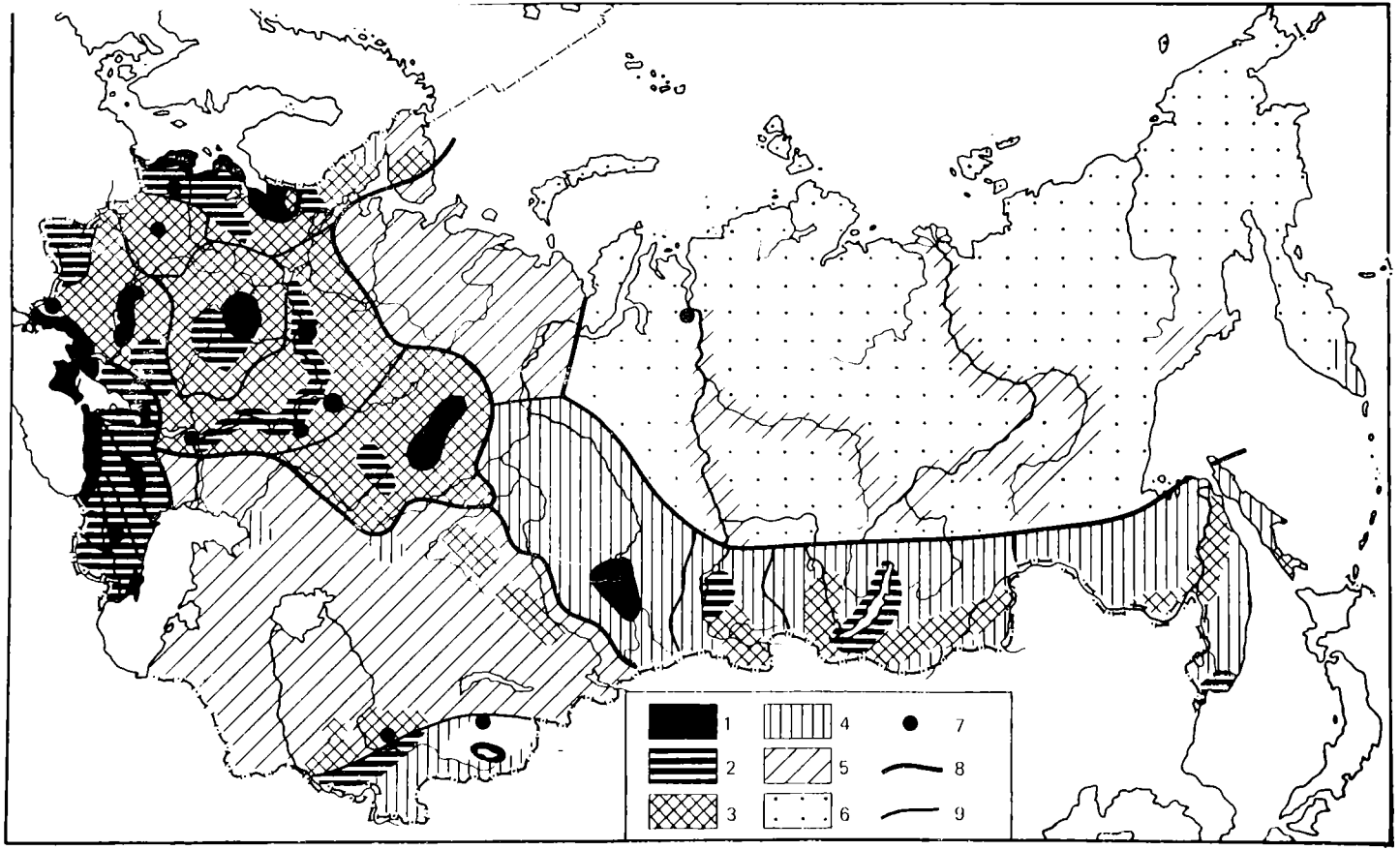

Fig. 25. Prospective recreational zoning of the USSR (compiled by V. S. Preobrazhensky and Y. V. Vedenin).

Regions and localisations with a density of institutions: 1—extremely high; 2—very high; 3—high; 4—average; 5—low; 6—very low; 7- excursion centres; 8 the boundaries of recreational zones; 9—ditto, of regions.

into two zones, several regions of Zone IV will be attracted into their orbit, and a number of new regions will emerge within the framework of today's zones II and I.

Zone I will continue to lead in the organisation of long vacations for the population living in other zones. A growth in the number of recreational institutions and facilities will be accompanied by the merging of their grounds and the formation of large areas with a high density of recreational systems, primarily, of an urbanised type. In connection with the high demand for beaches and bathing as health-building facilities, this trend will manifest itself most strongly on the coasts of the Crimean, Black Sea, Coast of the Caucasus, Odessa and Azov regions. The merging of recreational areas may be somewhat retarded as a result of an increase in the intensification of the use for recreational purposes of the existing population centres as well as those being created. In this case an intensification presupposes the construction of high-rise buildings, the moving of non-recreational and some of the related recreational facilities beyond the limits of the recreational formations, as well as the combining of various establishments to reduce the floor-space of their auxiliary premises. The mechanisation of services that leads to a decrease in labour-consuming operations will play an important role.

Urbanisation of resort formations will create additional difficulties in the organising of leisure activities. The growth of the population in the resort towns and the disproportion in the number of jobs for men and women are responsible for the polyfunctional development of their economy (Yalta, Sochi, Sukhumi, and Pyatigorsk). However, their polyfunctional economy weakens the possibilities of developing their main function—that of recreation.

The preservation of the environment in resort regions is becoming increasingly important. The protection of their air basins from pollution by gas exhausts is a most urgent problem in this context. Restricted car traffic (which is hardly feasible what with the growing role of transport), electric vehicles, pipe-line transportation and better-regulated internal combustion engines will serve this purpose. Centralisation and improvement of the central heating systems are also required.

The seasonal pressure levels, which tend to rise, make the protection of water reservoirs, as sources of communal water

supply and as bathing sites, a highly acute problem.

The establishment and expansion of the "green infrastructure" (city parks) is also an important undertaking. The joining of parks belonging to individual institutions into public parks within one resort is highly promising in this connection. The extensive planting of vegetation should not be overlooked especially in the Odessa, Caspian and Azov regions. Asphalted areas in parks should be reduced in a great measure.

It is believed that the development of new tourist complexes in the neighbouring mountains will ease the pressure on the Black Sea resorts. But it is higly probable that the vacationers in the mountain complexes will spend the greater part of their time in the coastal zone, on beaches, or combine their recreation in mountains with that by the sea, and this may lead to increased pressures on the coastal zone.

When calculating the pressure on the coastal areas of Zone I, researchers and planners should take into account the growth rates of urban agglomerations both within the zone (Odessa, Tbilisi, Yerevan, Baku) and adjoining it (Donbas and others), with their demand for allocating sites and bodies of water for weekend recreation of local residents. New recreational systems should be formed to meet the demand of residents of woodless arid regions (especially the intermountain depressions of the Caucasus) to spend their vacations (including long vacations for whole families with members of different age groups) in mid-mountain areas with forests and comfortable conditions during the summer months. In this context the planners of recreation are faced with a number of new problems, one of which is to find the right proportion between local and national recreational institutions and facilities in a given region. If they fail to find a solution this may lead to a situation in which lands that could be used for developing national resorts are occupied by numerous local small health-building facilities (Karalino-Bugaz near Odessa, for example).

Determining the most economic and rational use of new recreational resources and finding a correct proportion among recreational sub-sectors constitute crucial problems facing the researchers.

The development of the territorial structure is dominated by processes associated with the tendency to reduce the differences in the level of development of various recreational

regions. The "young" recreational regions strive to catch up with the older ones (primarily with the Crimean region and the Black Sea Coast of the Caucasus) in the amount of facilities and the level of their infrastructures. This process is a characteristic feature in the development of a group of recreational regions along the northern coast of the Black Sea and the Sea of Azov. Closer links between regions of differing types, for example between the sanatorium-resort type and mountain sports-tourist type or health-building type, constitute another integrating process typical for Zone I. The new tendency of using recreational villages and facilities on the periphery of the Caucasian Mountains region as excursion sites and centres of short mountain hikes (Dombai, Krasnaya Polyana, Lake Ritsa) will manifest itself to the full in the future. The growing number of organised and independent (especially by car) tourist itineraries will greatly enhance the ties between recreational regions of this zone. The same applies to ties between regions of neighbouring zones. All this goes to say that recreation centres and coastal towns (Berdyansk, Skadovsk) will develop into resort agglomerations.

At the same time processes of differentiation will actively manifest themselves. For example, two independent recreational regions—the West-Transcaucasian and the East-Transcaucasian—will take shape after separating from today's Transcaucasian region. The first will embrace spas and resorts in the west of the Georgian SSR (Tskhaltubo, Borzhomi, Bakuriani), and in the north of the Armenian SSR, including Lake Sevan. Its sanatoria and resort facilities, and health-building and sports centres will cater to vacationers from remote areas of the Soviet Union as well as local residents. The second region will enhance its role as a national excursion and tourist centre. At the same time, a wide network of suburban recreational facilities will take shape within its boundaries, the greater portion of which will concentrate around Tbilisi and Yerevan forming distinct localisations.

In the majority of the zone's other regions the differentiation processes will result in the formation of new sub-regions, localisations and agglomerations. On the Black Sea Coast of the Caucasus two sub-regions may emerge (in the north and in the south). Two new resort agglomerations will be formed: Tuapse-Gelenjik (RSFSR) and Gagra-Su-

khumi (Abkhazia). In the North Caucasian region the existing resort agglomeration, embracing five separate towns, will become more compact as a result of the development of separate settlements that are growing up along the roads leading to these towns. It is highly probable that Nalchik will be also drawn into its sphere.

The development of the Caucasian Mountains region will proceed primarily as a result of expanding the already existing mountain sports complexes (at Tseya, in the valleys of Teberda and Baksan, in Arkhyz and in other places). The recreational development of the southern slope of the Greater Caucasus, as well as the Eastern Caucasus will proceed more intensively. The rapid development of the recreational economy of the northern slope may bring up the question of turning it into a separate sub-region.

The Caspian region is the less developed region of Zone I. The formation of the big recreational agglomeration on the Apsheron Peninsula is, evidently, of first priority. It will specialise in medical treatment at sanatoria and health-building activities and offer its sites for weekend recreation. This may lead to the emergence of the Apsheron sub-region. Makhachkala is another prospective foci of the concentration of recreational institutions and related facilities.

New resort towns and agglomerations will appear in the Crimean recreational region, the south-eastern and western parts of the Crimean Peninsula (Sudak-Feodosia and Yevpatoria-Sevastopol). Several recreational sub-regions (the Southern Coast of the Crimea, the Western Crimea, the Eastern Crimea, the Foothills) will finally take shape.

The Odessa-Karolino-Bugaz agglomeration in the Odessa recreational region will also take shape and expand westwards to a great measure.

The Azov recreational region will supplement its recreational network with new resort towns that will rise on lands formerly occupied by small coastal villages—the sites of today's local recreation centres. The constantly growing demand of the Donbas, Zhdanov, Taganrog and Rostov for recreation grounds calls forth the formation of recreational localisations here.

Zone II is expected to be the scene of most dynamic changes: the increase in the number of regions (from 6 to 10) as a result of the differentiation of the already developed or new territories and the growth in the number of localisations,

some of which are suitable for forming sub-regions. In the future it is contemplated to extend the zone northwards and include into it the territories of Karelia and the Kola Peninsula.

The distribution of territorial recreational systems of Zone II being closely connected with the pattern of settlement promotes the rapid expansion of areas within the recreational orbit of all big cities. This expansion, accompanied by the merger of areas, may lead to some weakening of the rather simple dependence of the recreational network on the location of cities and to a greater role of places where recreational resources of high quality are concentrated.

The processes of integration in Zone II make themselves felt primarily in the expansion of zones of influence of cities. The merging of some of the recreational areas is accompanied by the formation of common, inter-agglomerational recreational systems along the Volga and the Dnieper, and around Lake Seliger. It is highly probable that the area under recreational institutions and facilities of Moscow will merge with the recreational area of Gorky. The area under recreational institutions and facilities of Leningrad and that of the Baltic cities show a marked tendency towards their merging. This process takes place in a most dynamic way on the banks of rivers, and on the shores of seas, large lakes and reservoirs, and along motorways.

As in Zone I, the process of localisation areas becoming more compact will be accompanied by their urbanisation. But in Zone II this process will be associated with the growth of summer villages, villages of gardening societies, recreation centres and Young Pioneer camps rather than with the development of massive resort agglomerations.

For this reason nature protection measures, especially the protection of forests and bodies of water, are of paramount importance in this zone. In cases of high recreational pressures, forest areas should be given the status of forest-parks or parks, while beaches with abundant greenery should have a higher recreational endurance (stability). Nature protection measures should also include the protection of the purity of water in rivers, lakes and reservoirs in sites of recreational activity.

Needless to say that an extensive development of recreational institutions and facilities of the sightseeing and educational type based on historical, architectural and cultural

complexes and ensembles requires funds for their protection and restoration. And in this connection it is highly important to increase hotel accommodation, for it is inexpedient to establish tourist hostels in little towns for weekend visitors.

Researchers and planners should take into consideration the urgency of establishing recreational parks with a ramified network of motor-roads and paths for pedestrians, grounds for caravans, tents, etc., and numerous parking lots in Zone II.

Other basic problems facing the research workers of this zone deal with the control of streams of vacationers, the handling of recreational resources, methods of increasing the capacity of recreational areas, and nature protection.

In contrast to Zone I processes of differentiation manifest themselves far more intensively here. The distinction between foci and localisations of differing orientation is becoming more pronounced. At present the Carpathian and the Baltic regions are emerging as independent units within the Dnieper-Dniester and Western regions respectively (both regions being of a national status). The development of urban agglomerations and the growth of large recreational areas around them may also result in the formation of new regions and sub-regions in this zone. This process can be clearly observed in the Dnieper-Dniester region where the Severskу-Donets region is taking shape.

The formation of new regions is not restricted to differentiation processes taking place within a zone, they can also emerge as a result of including new territories into the zone. Thus, for example, according to the new zoning, the Ural region has become part of Zone II. It may be expected that the Kola-Karelian region will take shape in the future. This is largely due to its growing role in servicing the neighbouring regions, primarily, the North-Western region, and a rapid rate of development of sports and tourist facilities here. Within the new region there will emerge several localisations (for example, in the Khibiny Mountains where the mountain-climbing and skiing complex is already functioning, and in Karelia which is becoming increasingly popular as a site of water-borne tourism). Simultaneously many vast recreational localisations with their growing capacity are practically turning into sub-regions—a process that may be observed near Moscow, Kiev, Leningrad and in the Urals.

Recreational specialisation of regions will proceed hand in hand with the formation of special recreational foci and areas intended for servicing neighbouring regions. In this context we should mention the expanding Jurmala resort agglomeration and the one near Leningrad on the Karelian Isthmus in its maritime section. A network of skiing centres, villages and even towns is taking shape in Transcarpathia (Yaremcha, Kosov). It is expected that new recreational agglomerations will emerge in a most dynamic way in areas of large concentrations of medical and health-building facilities on the Baltic coast and in the Carpathians.

A new special group of historical excursion and tourist sites is highly probable to emerge in the Vladimir, Suzdal, Yaroslavl, Kostroma and other western and northern regions. Their use within the recreational network and the prospects of arranging new tourist and excursion itineraries show a tendency to the network's merging first with that of the Kalinin Region and then, at a later stage, with that of the North-Western recreational region. This vast tourist and excursion area is practically acquiring an inter-regional status.

The insufficiency of labour and land resources, which is a feature of this zone, will step up the concentration process of highly-specialised recreational institutions and facilities, and as they grow in number they will tend to merge. The existing conglomerate of recreational facilities poorly linked between themselves is highly suitable as a base for creating recreational combines and associations of facilities with the bigger ones formed in the Carpathians and on the Baltic coast.

A ramification and a better adjustment of the territorial organisation of recreational systems will affect most strongly the more-developed western regions of Zone II where new regions, sub-regions and vast localisations will emerge. Integration and differentiation processes will also take place in the younger recreational Volga and Ural regions. The Volga recreational region will become an interrelated system of agglomerations consisting of recreational localisations grouped around administrative centres and linked by national itineraries running along the Volga, the Kama and the Don. An intensive agglomeration process will affect gardening societies, recreation centres and other recreational facilities around such big cities as Sverdlovsk, Chelyabinsk

and Perm of the Ural recreational region. The tendency to even out the levels of development of all recreational subsectors, enhance the role of sports, tourist and health-building facilities and create parks servicing one or several recreational agglomerations is characteristic of both aforesaid regions.

In spite of the fact that in future many regions in Zone II will approximate the contemporary level of the regions in Zone I in terms of capacity of their recreational facilities, the role of the recreational economy in their economic development will, on the whole, remain the same. This is primarily associated with the powerful development of other branches of the economy—industry above all. However, it is likely that the recreational economy may become of leading importance for certain population centres and administrative districts.

The rapid development of new territorial-production complexes and the growth of newly-formed cities predetermine the accelerated development of the territorial recreational systems of Zone III. In addition to the already existing Siberian regions, it will include northern areas of the European part of the USSR and the West-Siberian territorial-production complex. The rapid development of suburban recreation is characteristic of them. In the eastern part the boundaries of the zone will move to the north because of the construction of the Baikal-Amur Railway and the development of new territorial-production complexes.

In this zone recreational development is proceeding far and wide, which will result in a larger amount and a greater density of recreational facilities, as well as in more extensive areas of their distribution. Inter-regional formations embracing resorts, tourist and other recreational facilities will be established on the Pacific seaboard, in the mountains of Southern Siberia and in the Baikal area. It will play a greater role in satisfying the national recreational demand. The remoteness of the majority of the zone's cities from the highly-developed recreational regions of Zone I is responsible for the rather even development of all its recreational subsectors. All the regions of this zone will be characterised by a high share of recreation systems servicing primarily the local population and specialising in the organisation of weekend leisure, medical treatment, and healthbuilding activities. At the same time the role of sports and

tourism for education will be greatly enhanced, which will attract visitors from other recreational regions.

Active differentiation processes, affecting in the first place the internal structure of recreational regions, will be associated with the continued foci-patterned recreational development of the territory as a whole.

The ramified pattern of settlement in the Ob-Altai and Yenisei recreational regions has all the prerequisites for forming, within the orbit of the biggest cities, massive suburban localisations of a universal nature. Simultaneously, localisations of medical-treatment and sports facilities, gravitating to the Altai and the Sayan mountains with their picturesque scenery and favourable climatic conditions, are taking shape in these regions.

The development of the Baikal recreational region will lead to the creation of the Baikal localisation, including tourist hostels, rest homes, national parks and hotels, that will serve the local population, the population of Siberia and the Soviet Union as a whole.

Within the limits of the Far Eastern recreational region, localisations will emerge on Sakhalin, Kamchatka, and along the Amur River. The emergence of the South Primorye subregion is quite probable, which, due to its unique nature and a fairly well-developed material and technical base, will occupy a leading place among the resort formations of this zone. The only resort agglomeration of this zone will embrace the resorts around Vladivostok, and recreational parks with the exotic landscapes of the Ussuri taiga will be created.

Kuzbas offers good opportunities for establishing a recreational agglomeration with a rather high degree of density of recreational facilities. The south of Krasnoyarsk Territory (on the Angara) will become the site of massive recreational agglomerations, while the European North of the USSR and the developing areas of Western Siberia will stimulate the formation of smaller localisations.

All this goes to say that the level of recreational development of a huge portion of this zone's territory may reach that of Zone II in the foreseeable future. However, the uneven recreational development of this territory so characteristic of it, will continue to persist. This can be explained by the peculiar settlement patterns due to the uneven distribution of industrial centres (industrial foci).

The growing national and inter-zonal importance of the recreational resources of Central Asia and Kazakhstan and high rates of population growth will enhance the process of concentration of recreational facilities here which, in its turn, will make it possible to establish a new recreational zone in this territory.

Unified recreational systems intended to meet local and inter-zonal requirements on a high level will be a feature of this zone. The recreational economy of this zone will have a particularly important role to play in meeting the requirements of Siberia's regions.

A most characteristic feature of this zone will be differentiation trends associated with the specialisation of individual territories. Two new recreational regions—the Central Asian mountains and Central Asian plains and deserts—will take shape.

The first region will include the existing Issyk-Kul resort zone and individual mountain-climbing and skiing complexes as well as tourist hostels. Near Lake Issyk-Kul, for instance, along with the formation of a resort agglomeration, it is planned to develop several recreational parks, and sports and tourist complexes. As a result, the region will fulfil a greater range of functions. The second region will be characterised by a network of recreational foci. A number of recreational agglomerations servicing the local urban population (Karaganda and other cities) will be formed on its vast undeveloped or poorly-developed territories. Other territories of this region will be used for building individual facilities or combines, mainly of the medical-treatment type.

The Samarkand-Bukhara sub-region is showing a tendency of becoming a national centre of excursions and tourism. Recreational parks for walking with a variety of landscapes, including exotic Central Asian desert landscapes, will be established in the zone. Visits to such parks in combination with excursions to the architectural and historical monuments in their neighbourhood will become highly popular among tourists.

The natural resources of the zone and their use for recreational purposes have their own specific problems to face. The development of many of the suburban recreational agglomerations will be based on a more intensive exploitation of their territories entailing their improvement, new man-made

seas, planting of vegetation, etc., rather than on expanding them. Simultaneously, the intensified recreational use of such unique natural sites as Lake Issyk-Kul, the slopes of the Tien-Shans, fruit groves of Kirghizia will require measures regulating recreational pressures, sponsoring stable planting of vegetation, protecting the slopes from erosion, etc. One of the features of the future zone will be the uneven character of its recreational development, which can be attributed, primarily, to the pattern of settlement in the zone, dispersed industrial foci, and non-homogeneous natural conditions of recreation, ranging from unfavourable (arid deserts and semi-deserts in Kazakhstan and Central Asia) to most favourable conditions whose value far transcends local significance. Individual sub-regions of this zone will reach the level of development of some of the regions in zones I and II. The Issyk-Kul resort agglomeration, for example, may come to play an important role in the economy of the Kirghiz Republic.

The new recreational Zone IV, just as the present-day Zone IV, will embrace all of the less recreationally developed territories. However, its area will be significantly smaller than its predecessor's. The majority of the zones examined previously will increase their area at the expense of the northern territories that were earlier part of Zone IV.

It is not likely that there will be any substantial changes in the inner structure of the zone. However, one may expect that sharply-defined recreational formations will develop on its territory, primarily in the environs of Norilsk, Magadan, Petropavlovsk in Kamchatka, Yakutsk and other cities, where multi-purpose recreational systems for short vacations and medical treatment, as well as institutions for preventive treatment and children's suburban facilities will be concentrated.

The future development of suburban recreation grounds in this zone will largely depend on its settlement patterns. There exist various plans for developing the North, which envisage the construction of large population centres and towns for permanent residents as well as the building of a network of settlements for short stays. But no matter which development version is chosen, it is clear that there will always be a need for preventive treatment facilities and sanatoria. And it should not be disregarded that the requirements of Siberia's native population, living in its north-

ern parts, are increasing at a rapid rate. Population arriving from other zones as well as local population will be responsible for the growth of cities here.

This zone will continue to meet the national demand for tourist and excursion services. Trips will be arranged along Siberia's biggest rivers (the Ob, the Lena, the Yenisei), and to the newly-developing maritime regions in Kamchatka with its unique places of interest—the Valley of Geizers, volcanoes, ethnographic sights.

It is highly probable that in the future a system of corridors will take shape consisting of a chain of recreational localisations with sanatoria, recreation centres, suburban recreational facilities linked together by water-based tourist itineraries. Such systems are already in existence on the Volga. This system may include other types of recreational territories—national parks above all.

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